Delaware River Basin Commission

Lower Delaware River Special Protection Waters Classification

RESPONSE TO COMMENTS

September 26, 2008

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Table 1: Index of Commenting Entities

	Organization / Agency / Individual	Signer	Letter Dated	Letter Received	Position
L-1	Tohickon Watershed Conservation Plan	Marion M. Kyde, Ph.D., Director	9/1/2004	9/3/2004	Support
L-2	Delaware and Raritan Canal Commission	James C. Amon, Executive Director	9/1/2004	9/3/2004	Support
L-3	Citizens for Pennsylvania's Future	Matthew B. Royer, Staff Attorney	9/1/2004	9/3/2004	Support
L-4	U.S. Department of the Interior National Park Service	John J. Donahue, Superintendent	9/3/2004	7/8/2004	Support
L-5	Individual	Michael P. Ninno Alice A. Ninno	9/24/2004	9/30/2004	Support
L-6	Driftstone on the Delaware Family Campground	Earl R. Ackerman Margaret D. Ackerman	9/30/2004	10/5/2004	Support
L-7	Individual	Elaine Brower	10/4/2004	10/6/2004	Support
L-8	Tidewaters Gateway Partnership	Richard H. McNutt, President	10/4/2004	10/4/2004	Support
L-9	Individual	Kim Hood	10/4/2004	10/4/2004	Support
L-10	Individual	Arlene Muzyka	10/4/2004	10/4/2004	Support
L-11	Kayak Canoe Club of New York; Mohawk Canoe Club; Lehigh Valley Canoe Club; American Canoe Association; American Whitewater; Hackensack River Canoe & Kayak Club	Arleen Raymond	10/4/2004	10/4/2004	Support
L-12	Individual	Eric Sween	10/5/2004	10/5/2004	Support
L-13	Oldies WRNJ Radio	Unknown/Illegible signature	10/5/2004	10/5/2004	Support
L-14	Individual	Mark J. Royack (sent several emails)	10/5/2004	10/5/2004	Support
L-15	Tohickon Creek Watershed Conservation Study	Marion M. Kyde, Ph.D., Director	10/5/2004	10/5/2004	Support
L-16	Individual	Thomas D'Angelo	10/5/2004	10/5/2004	Support
L-17	Individual	Georgi Offrell	10/6/2004	10/6/2004	Support

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	Organization / Agency / Individual	Signer	Letter Dated	Letter Received	Position
L-18	PA House of Representatives, 31st Legislative District	David J. Steil	10/8/2004	10/12/2004	Support
L-19	Individual	Alice MacDonald	10/9/2004	10/12/2004	Support
L-20	Individual	Sean Richard Teter	10/9/2004	10/9/2004	Support
L-21	Individual	Beverly Schweder	10/12/2004	10/12/2004	Support
L-22	Individual	Beverly Solomon	10/13/2004	10/14/2004	Support
L-23	Tinicum Township, Board of Supervisors	Linda Wieand, Township Manager Gary Pearson, Chairperson Nicholas C. Forte, Vice-Chairperson Boyce Budd, Member	10/12/2004	10/14/2004	Support
L-24	Individual	Susan Cobb	10/12/2004	10/14/2004	Support
L-25	Individual	Harry P. Jones	10/14/2004	10/15/2004	Support
L-26	Individual	Robert and Patricia Whitacre	10/14/2004	10/15/2004	Support w/comments
L-27	Individual	Loren Rabbat	10/4/2004	10/19/2004	Support
L-28	Individual	Paul Harmon	10/17/2004	10/19/2004	Support
L-29	Individual	Donald Downs, Jr.	10/17/2004	10/19/2004	Support
L-30	Individual	Mike Hunninglake	10/17/2004	10/19/2004	Support
L-31	Individual	Jillian Karhumaa	10/17/2004	10/19/2004	Support
L-32	Individual	Susan Weisman Andy Howard	10/15/2004	10/19/2004	Support
L-33	Individual	Michael Marchino	10/17/2004	10/19/2004	Support

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	Organization / Agency / Individual	Signer	Letter Dated	Letter Received	Position
L-34	Individual	Betty Kitson Kenneth Kitson	10/15/2004	10/19/2004	Support w/comments
L-35	Individual	Gary Cable	10/15/2004	10/19/2004	Support
L-36	Individual	James Tingley	10/15/2004	10/19/2004	Support
L-37	Individual	Janet Grillo Alfonso Grillo	10/18/2004	10/19/2004	Support
L-38	Individual	Claire Scott	10/18/2004	10/19/2004	Support
L-39	City of Easton, Pennsylvania	Sandra Vulcano, President City CouncilMichael Fleck, VP City CouncilKenneth Brown, Council MemberCarole Heffley, Council MemberPamela Panto, Council Member	10/14/2004	10/19/2004	Support
L-40	Individual	Bonnie Rosenberg	10/18/2004	10/19/2004	Support
L-41	Musconetcong Watershed Association	Beth Barry	10/18/2004	10/20/2004	Support
L-42	Individual	John Hiehle	10/18/2004	10/20/2004	Support
L-43	Individual	Gary Pulone	10/18/2004	10/20/2004	Support
L-44	Individual	Patricia Kaiser	10/18/2004	10/20/2004	Support
L-45	Individual	Kenneth Heaphy	10/18/2004	10/20/2004	Support
L-46	Individual	Sally McKenna	10/19/2004	10/21/2004	Support
L-47	Individual	Karen N. Budd, President Marion M. Kyde, Ph.D., VP	10/14/2004	10/21/2004	Support
L-48	Individual	Donna Hall	10/20/2004	10/21/2004	Support
L-49	Individual	Georgi Offrell	10/6/2004	10/22/2004	Support

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L-50	Individual	Karin Lazarus	10/20/2004	10/22/2004	Support
L-51	New Hope Borough	John Burke, Borough Manager	10/18/2004	10/22/2004	Support
L-52	Individual	Bruce Stone	10/26/2004	10/28/2004	Support
L-53	Individual	James and Cindy Overbeck	10/26/2004	10/28/2004	Support
L-54	Individual	Susan Boes	10/27/2004	10/28/2004	Support
L-55	Individual	Carolyn Reider	10/26/2004	10/28/2004	Support
L-56	Tinicum Township	Damon Aherne	10/25/2004	10/27/2004	Support
L-57	Upper Makefield Township	Betsy Falconi	10/21/2004	10/26/2004	Support
L-58	New Jersey Senate	Leonard Lance, State Senator	10/20/2004	10/26/2004	Support
L-59	Individual	Kurt Bauereiss	10/23/2004	10/25/2004	Support
L-60	Individual	Patricia Brophy	10/22/2004	10/25/2004	Support
L-61	Individual	William Terrill	10/22/2004	10/25/2004	Support
L-62	Individual	Roxane and Robert Shinn	10/23/2004	10/25/2004	Support
L-63	Delaware and Raritan Canal Commission	James Amon	10/21/2004	10/25/2004	Support
L-64	Individual	Roberta Camp	10/20/2004	10/25/2004	Support
L-65	Nockamixon Township Board of Supervisors	Kenneth Gross	10/19/2004	10/25/2004	Support
L-66	Individual	Anthony Ficcaglia	10/21/2004	10/25/2004	Support
L-67	Individual	Andrea Hayde	10/28/2004	10/29/2004	Support
L-68	Elliott and Elliott	Charles W. Elliott, Esq., representing Driftstone on the Delaware	10/26/2004	10/29/2004	Support
L-69	Individual	Patricia Macrina	10/27/2004	10/29/2004	Support
L-70	Heritage Conservancy	Clifford C. David, Jr., President	10/18/2004	10/29/2004	Support

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L-71	Individual	David Millrod	10/31/2004	11/2/2004	Support
L-72	Individual	Susan Fendler	10/29/2004	11/2/2004	Support
L-73	Individual	John and Linda Capozucca	10/29/2004	11/2/2004	Support
L-74	New Jersey General Assembly	Bonnie Watson Coleman, Assemblywoman, District 15 Reed Gusciora, Assemblyman, District 15	10/28/2004	11/2/2004	Support
L-75	Individual	Hank and Maria Kalinowski	11/1/2004	11/3/2004	Support
L-76	American Littoral Society	Frank Steimle	11/2/2004	11/3/2004	Support
L-77	Hunterdon Land Trust Alliance	Margaret Waldock	11/2/2004	11/4/2004	Support
L-78	Individual	Joan Faiello	11/4/2004	11/5/2004	Support
L-79	Individual	Shannon Dalessio	11/3/2004	11/5/2004	Support
L-80	Individual	Lois Voronin	11/4/2004	11/5/2004	Support w/comments
L-81	Individual	Bill Wolfe	10/22/2004	11/8/2004	Support
L-82	Individual	Judith Henckel	11/5/2004	11/8/2004	Support
L-83	Individual	Lisa MacCollum	11/6/2004	11/8/2004	Support
L-84	Individual	Paul Krzywicki	11/4/2004	11/8/2004	Support
L-85	Individual	Joseph Judge	11/5/2004	11/8/2004	Support
L-86	Individual	Leona and George Fluck	11/6/2004	11/8/2004	Support
L-87	Individual	Ruth Ann Zobel	11/9/2004	11/10/2004	Support
L-88	Individual	Sandra Whipple	11/9/2004	11/10/2004	Support
L-89	Individual	Lisa B. Carlin, Esq.	11/9/2004	11/10/2004	Support
L-90	Individual	Marian C. Staiger	11/9/2004	11/10/2004	Support

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L-91	Individual	Robert B. Adams	11/10/2004	11/12/2004	Support
L-92	United States Senate, New Jersey	Jon S. Corzine	11/8/2004	11/15/2004	Support
L-93	Individual	Jean F. Cochrane	11/15/2004	11/16/2004	Support
L-94	Individual	Irma Fralic	11/15/2004	11/17/2004	Support
L-95	Warren County Environmental Commission	William J. Rosebrock	11/16/2004	11/17/2004	Support
L-96	Chemical Council of New Jersey	Anthony Russo, Director, Regulatory Affairs	11/17/2004	11/19/2004	Opposed w/comments
L-97	U.S. Senate	Frank R. Lautenberg	10/29/2004	11/19/2004	Support
L-98	NJ Environmental Federation and Pennsylvania Clean Water Action	Sharon Finlayson, Board Chair Robert Wendelgass, State Director	10/25/2004	11/19/2004	Support
L-99	NJ Audubon Society	Theodore J. Korth, Director of Policy	10/27/2004	11/19/2004	Support
L-100	Environmental Fund for Maryland	David Bell	11/22/2004	11/23/2004	Support
L-101	Upper Mount Bethel Township Environmental Advisory Council	Judith Henckel, Michelle Arner, Larry Ott, Scott Angus, Richard DiFebo, Sean Kearney	11/23/2004	11/24/2004	Support
L-102	Nazareth Borough Municipal Authority	Pat Mandes	11/22/2004	11/24/2004	Opposed w/comments
L-103	Individual	Suzanne Marinell	11/22/2004	11/24/2004	Support
L-104	Pennsylvania Municipal Authorities (PMAA)	Peter T. Slack, Government Relations Associate	11/29/2004	11/29/2004	Opposed w/comments
L-105	Individual	Kim Rosamilia, Ph.D. Consultant in Epidemiology and Environmental Health Sciences	11/29/2004	11/29/2004	Support

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L-106	Individual	Megan Callus	11/29/2004	11/29/2004	Support
L-107	Individual	Jason P. Andris	11/29/2004	11/29/2004	Support
L-108	Individual	Patricia Wittig	11/29/2004	11/29/2004	Support
L-109	Individual	Robert Szuter	11/29/2004	11/29/2004	Support
L-110	Individual	Dawn Serra	11/29/2004	11/29/2004	Support
L-111	Individual	David Kunz	11/29/2004	11/29/2004	Support
L-112	Individual	Dwight Hiscano, Nancy Hiscano	11/29/2004	11/29/2004	Support
L-113	Stony Brook Millstone Watershed Association	George Hawkins, Executive Director	11/29/2004	11/29/2004	Support
L-114	Elliott & Elliott Law Offices for Driftstone on the Delaware, Inc.	Charles W. Elliott, Esq.	11/29/2004	11/29/2004	Support
L-115	Borough of Portland, PA	Kay Bucci, MayorSherma L. Godabald, Borough Council President	11/24/2004	11/29/2004	Opposed w/comments
L-116	Individual	Grant Captanian	11/24/2004	11/29/2004	Support
L-117	Upper Mount Bethel Township, PA	Andrew Nestor, Jr., Chairman	11/9/2004	11/29/2004	Support
L-118	Individual	Elise Murray, Tom Murray	11/24/2004	11/29/2004	Support
L-119	Individual	Joseph Frederick		11/29/2004	Support
L-120	Paulinskill-Pequest Watershed Association, Inc.	Jeffrey Butz, President	11/28/2004	11/29/2004	Support
L-121	Utility Water Act Group	Keith Hanson, Chairman, UWAG Water Quality Committee	11/19/2004	11/29/2004	Support
L-122	Manko, Gold, Katcher & Fox, LLP Law Offices for O'Neill Properties Group, L.P.	Bruce S. Katcher, Esq.	11/29/2004	11/29/2004	Opposed w/comments
L-123	Individual	Suzanne M. Freund	11/29/2004	11/29/2004	Support

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L-124	Individual	Helene Curley	11/29/2004	11/29/2004	Support
L-125	Individual	Mark DeLorenzo	11/29/2004	11/29/2004	Support
L-126	Anthony Como Associates	Anthony Como	11/29/2004	11/29/2004	Support
L-127	Individual	Thyra A. Fossum, Ph.D.	11/29/2004	11/29/2004	Support
L-128	Individual	Suzanne Crilley	11/29/2004	11/29/2004	Support
L-129	Individual	Lenore Roca	11/29/2004	11/29/2004	Support
L-130	Great Egg Harbor Watershed Association	Fred Akers, Administrator	11/29/2004	11/29/2004	Support
L-131	Individual	Lauren S. Chesley	11/29/2004	11/29/2004	Support
L-132	Individual	Ruth Dougherty	11/29/2004	11/29/2004	Support
L-133	Individual	Bill Wolfe	11/29/2004	11/29/2004	Support w/comments
L-134	New Jersey PIRG	Douglas O'Malley, Clean Water Advocate	11/29/2004	11/29/2004	Support
L-135	Individual	Lucia Foley	11/29/2004	11/29/2004	Support
L-136	Individual	Edward Snyder	11/29/2004	11/29/2004	Support
L-137	Delaware River Steamboat Floating Classroom, Inc.	Bart Hoebel, Ph.D., President	11/29/2004	11/29/2004	Support
L-138	Individual	Marcia M. Blackwell	11/29/2004	11/29/2004	Support
L-139	Individual	William J. Frezel	11/29/2004	11/29/2004	Support
L-140	Individual	Linda J. Barth	11/29/2004	11/29/2004	Support
L-141	Individual	Beth Wilkinson	11/29/2004	11/29/2004	Support
L-142	WTNI 91.9 FM Radio	Uke Jackson	11/29/2004	11/29/2004	Support
L-143	Individual	Bill Haaf	11/29/2004	11/29/2004	Support
L-144	Pequannock River Coalition	Ross Kushner, Executive Director	11/29/2004	11/29/2004	Support

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L-145	East Branch Perkiomen Task Force	Robert B. Adams	11/29/2004	11/29/2004	Support
L-146	Individual	Max DeVane	11/29/2004	11/29/2004	Support
L-147	Save Hamilton Open Space	Rocky Swingle, President	11/29/2004	11/29/2004	Support
L-148	Individual	Margaret Liebig	11/29/2004	11/29/2004	Support
L-149	Individual	Rosemary King	11/29/2004	11/29/2004	Support
L-150	Individual	Lois R. Hagemaier	11/29/2004	11/29/2004	Support
L-151	Business Intelligence	Ron Gutkowski	11/29/2004	11/29/2004	Support
L-152	Pompeston Creek Watershed Association	Deborah Grant Lord, President	11/29/2004	11/29/2004	Support
L-153	Individual	Lisa B. Carlin, Esq.	11/29/2004	11/29/2004	Support
L-154	Individual	Ronald S. Dise, Rowena Dise	11/29/2004	11/29/2004	Support
L-155	Individual	Michael Haleta	11/29/2004	11/29/2004	Support
L-156	Individual	Brian J. McElrone	11/29/2004	11/29/2004	Support
L-157	Individual	John W. Fowler, Ann W. Fowler	11/29/2004	11/29/2004	Support
L-158	Individual	Wendy Lathrop, PLS, CFM	11/29/2004	11/29/2004	Support
L-159	Individual	Lou Umscheid, Carole Umscheid	11/29/2004	11/29/2004	Support
L-160	Friends of Holland Highlands	Bella Keady, Secretary	11/29/2004	11/29/2004	Support
L-161	Delaware River Greenway Partnership	John P. Brunner, Executive Director	11/30/2004	11/30/2004	Support w/comments
L-162	Citizens for Pennsylvania's Future	Matthew B. Royer, Esq., Staff Attorney	11/30/2004	11/30/2004	Support w/comments
L-163	Rutgers University, Cook College, Department of Human Ecology	Melanie Hughes McDermott, Ph.D., Visiting Scholar	11/30/2004	11/30/2004	Support
L-164	Individual	Ethel Mae Theriault	11/30/2004	11/30/2004	Support

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L-165	Protect Our Wetlands, Water & Woods (POWWW)	Hilary B. Thomas	11/30/2004	11/30/2004	Support
L-166	Stockton Environmental Commission	William H. Lowry, Chairman	11/30/2004	11/30/2004	Support
L-167	Individual	Susan Giffen, David Giffen	11/30/2004	11/30/2004	Support
L-168	Prudential Fox & Roach, Realtors	Phyllis Rosen, CRB, GRI, Broker Associate, Realtor	11/30/2004	11/30/2004	Support
L-169	Individual	Nancy Carringer	11/30/2004	11/30/2004	Support
L-170	Individual	Daryl W. Rice	11/30/2004	11/30/2004	Support
L-171	Individual	Douglas E. Stephens	11/30/2004	11/30/2004	Support
L-172	Individual	Constance Stroh	11/30/2004	11/30/2004	Support
L-173	FiberMark North America, Inc.	Gail S. Carpency, Environmental, Health & Safety Manager	11/30/2004	11/30/2004	Opposed w/comments
L-174	Carroll Engineering Corporation on behalf of Bucks County Water and Sewer Authority, New Hope Borough	John Swenson, P.E.	11/30/2004	11/30/2004	Opposed w/comments
L-175	Individual	Randall S. Blackwell	11/30/2004	11/30/2004	Support
L-176	Sourland Planning Council	Jennifer Bryson, PresidentKathleen Bird, Secretary	11/30/2004	11/30/2004	Support
L-177	Bethlehem Township Environmental Commission	Eric Sween	11/30/2004	11/30/2004	Support
L-178	Individual	Carol Watchler	11/30/2004	11/30/2004	Support
L-179	Environmental Connection, LLC	Gene McColligan, President	11/30/2004	11/30/2004	Support
L-180	Aventis Pasteur, Inc.	Timothy B. Cleary	11/29/2004	11/30/2004	Opposed w/comments

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L-181	Pennsylvania Chamber of Business and Industry	Gene Barr, Vice President Political and Regulatory Affairs	11/29/2004	11/30/2004	Opposed w/comments
L-182	Environment Resources Management	Ruth E. Baker, P.E.	11/29/2004	11/30/2004	Opposed w/comments
L-183	New York—New Jersey Trail Conference	Edwark K. Goodell, Executive Director Richard J. Benning, Esq.	11/30/2004	11/30/2004	Support
L-184	City of Lambertville	Loretta Buckelew, City Clerk	11/30/2004	11/30/2004	Support
L-185	Grand Central Sanitary Landfill, Inc.	Scott N. Perin, Site Manager	11/30/2004	11/30/2004	Opposed w/comments
L-186	Frascella, Salak & Pisauro, LLC Law Offices for New Jersey Environmental Lobby	Michael L. Pisauro, Jr., Esq.	11/30/2004	11/30/2004	Support
L-187	Individual	Joseph Andrew Miri	11/30/2004	11/30/2004	Support
L-188	Bethlehem Township Planning Board, Hunterdon County, NJ	Donal P. Conway, Vice Chairman Gladys J. Conway, Resident	11/30/2004	11/30/2004	Support
L-189	Delaware Riverkeeper Network, Clean Ocean Action, Skylands CLEAN, Inc., NJ Environmental Federation (NJEF), American Littoral Society, Highlands Coalition, New Jersey Sierra Club, Association of NJ Environmental Commissions	Tracy Carluccio, Special Projects DirectorCindy Zipf, Executive DirectorRobin O'HearnAmy Goldsmith, State DirectorTim Dillingham, Executive DirectorTom Gilbert, Executive DirectorJeff Tittel, DirectorSandy Batty, Executive Director	11/30/2004	11/30/2004	Support

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L-190	Delaware Riverkeeper Network	Maya K. van Rossum, Riverkeeper Tracy Carluccio, Director, Special Projects	11/30/2004	11/30/2004	Support w/comments
L-191	Cape Accountability Civic Group	Linda A. Colson, Director	11/30/2004	11/30/2004	Support
L-192	Lambertville Sewerage Authority	James J. Meehan, Executive Director	11/30/2004	11/30/2004	Opposed w/comments
L-193	Washington Crossing Audubon Society	Patricia P. Sziber, Conservation Chair	11/30/2004	11/30/2004	Support
L-194	Cowan Associates, Inc.	Angelika B. Forndran, P.E., Director of Environmental Engineering William D. Kee, P.E.	11/30/2004	11/30/2004	Opposed w/comments
L-195	Individual	Nick Barna, Brian Randolph, Julie Libersat, Shaun Flynn (Baltimore, MD)	11/30/2004	11/30/2004	Support
L-196	Phillipsburg Riverview Organization	Mike King, Michael Newman and Laura Oltman	11/30/2004	11/30/2004	Support
L-197	New Jersey Sierra Club	Jeff Tittel, Director	11/30/2004	11/30/2004	Support
L-198	Rutgers University	Edmund W. Stiles, Professor	11/30/2004	11/30/2004	Support
L-199	Pocono Mountains Vacation Bureau	Robert Uguccioni, Executive Director	11/30/2004	11/30/2004	Support
L-200	New Jersey Conservation Foundation	Alison Mitchell, Policy Director	3/9/2004	11/30/2004	Support

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	Organization / Agency / Individual	Signer	Letter Dated	Letter Received	Position
L-201	Tinicum Township, PA (Resolution 100504-1)	Gary Pearson, Chairperson Nicholas C. Forte, Vice-Chairperson Linda Wieand, Township Manager Boyce Budd, Member		11/30/2004	Support
L-202	Tinicum Township, PA (Resolution 100504-1 REVISED)	Planning Commission Damon Aherne, Chairperson Nicholas Tscheschlog, Member Judy Iden, Member Laure Duval, Member		11/30/2004	Support
L-203	Delaware Township, NJ (Resolution 2004-64)	George Hrehowesik, MayorJudith A. Allen, RMC, Township Clerk	10/12/2004	11/30/2004	Support
L-204	New Hope Borough (Resolution 2004-23)	Council of the Borough of New Hope John Burke, Borough Manager	10/18/2004	11/30/2004	Support
L-205	Tinicum Conservancy	Karen N. Budd, President Marion M. Kyde, Ph.D., Vice President for Conservation Programs	10/14/2004	11/30/2004	Support
L-206	Borough of Stockton, NJ (Resolution 36-04)	Gregg Rackin, Mayor Kimberly A. Franklin, Acting Clerk	11/16/2004	11/30/2004	Support

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L-207	Bridgeton Township, PA (Resolution 2004-5)	David M. Shafkowitz, Esq., Solicitor Board of Supervisors	10/14/2004	11/30/2004	Support
L-208	West Amwell Township, NJ (Resolution 04-99)	Betty Jane Hunt, RMC, Township Clerk	11/3/2004	11/30/2004	Support
L-209	Alexandria Township, NJ (Resolution)	Harry Fuerstenberger, Mayor	11/10/2004	11/30/2004	Support
L-210	City of Lambertville (Resolution)	Loretta Buckelew, City Clerk	11/30/2004	11/30/2004	Support
L-211	Individual	Joseph E. Petta, III	10/28/2004	11/30/2004	Support
	COMMENTS RECEIVED AFTER NOVEMBER 30, 2004 DEADLINE				
L-212	Individual	Thomas Bishop, Carol Traveny	12/1/2004	12/1/2004	Support
L-213	Meadowlands Conservation Trust	Tina Schvejda, Executive Director	11/29/2004	12/1/2004	Support
L-214	Stony Brook Millstone Watershed Association	George Hawkins, Executive Director	11/29/2004	12/1/2004	Support
L-215	Individual	Kathleen Rana	12/1/2004	12/1/2004	Support
L-216	Individual	Jeff Grosky	12/1/2004	12/1/2004	Support
L-217	Individual	David J. Rosenthal	12/1/2004	12/1/2004	Support
L-218	Pennsylvania Municipal Authorities Association	Peter T. Slack, Government Relations Associate	11/29/2004	12/2/2004	Support
L-219	U.S. EPA Region 3	Jon M. Capacasa, Director, Water Protection Division	11/30/2004	12/6/2004	Support
L-220	Sea Grant Pennsylvania Delaware Estuary Office, Penn State	Ann M. Faulds, Associate Director for the Delaware Estuary	11/29/2004	12/3/2004	Support

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L-221	Individual	Robert B. Durham, Jr.	11/30/2004	12/3/2004	Support
L-222	Individual	Mary J. Whiteman Robert M. Whiteman	12/4/2004	12/7/2004	Support
L-223	Individual	Joseph O'Grodnick	12/5/2004	12/9/2004	Support
L-224	Individual	Bernard Charles Oberoski	12/21/2004	12/23/2004	Support
L-225	Individual	Anne Marquardt	12/21/2004	12/23/2004	Support
L-226	**LETTERS IN SUPPORT OF PETITION FOR SPECIAL PROTECTION WATERS FOR THE LOWER DELAWARE RIVER SUBMITTED BY THE DELAWARE RIVERKEEPER NETWORK** Total Number: Thousands of petitions were submitted between 2004 and 2008 in support of permanent designation of the Lower Delaware as Special Protection Waters. Submissions occurred in conjunction with every extension of temporary designation.				Support
	WRITTEN COMMENTS REGARDING EXTENSION OF LOWER DELAWARE SPECIAL PROTECTION WATERS DESIGNATION - SEPTEMBER 2006				
L-227	Absolute Mortgage Company	Ryan Hall, Senior Loan Officer	6/23/2006	6/23/2006	Support
L-228	C. Hopf Building & Design	C.C. Hopf	6/26/2006	6/26/2006	Support
L-229	Delaware River Greenway Partnership	Barbara T. Ross, Secretary	6/29/2006	7/5/2006	Support
L-230	Warren County Planning Department	Gregory A. Sipple, Principal Planner	6/30/2006	7/5/2006	Support
L-231	Concerned Citizen	Judith Henckel	6/28/2006	7/5/2006	Support

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	Organization / Agency / Individual	Signer	Letter Dated	Letter Received	Position
L-232	Delaware River Greenway Partnership	Celeste Tracy, Executive Director	6/30/2006	7/10/2006	Support
L-233	Tinicum Conservancy	Karen Budd	7/6/2006	7/12/2006	Support
L-234	Tidewaters Gateway Partnership	Richard H. McNutt, President	7/14/2006	7/17/2006	Support
L-235	Borough of Hawthorne, Passaic County, NJ	Jean Mele, Borough Clerk	7/19/2006	7/21/2006	Support
L-236	Native American Alliance of Bucks County Preservationists of Native American Sites **Resolution, letter and petition - approx. 125 signatures**	Nokomis, Chairperson	7/12/2006	7/31/2006	Support
L-237	PA Department of Environmental Protection	Kathleen McGinty	8/17/2006	8/23/2006	Support
L-238	Pennsylvania Builders Association	Keith Ashley	9/8/2006	9/11/2006	Opposed
L-239	Individual	Shirley Shannon	9/13/2006	9/14/2006	Support
L-240	Individual	M. & R. Metrione	9/15/2006	9/18/2006	Support
L-241	Individual	Amanda Buschi	9/19/2006	9/21/2006	Support
L-242	West Amwell Environmental Commission, West Amwell Township, NJ	Catherine Urbanski	9/21/2006	9/26/2006	Support
L-243	Delaware Riverkeeper Network	Tracy Carluccio, Deputy Director	9/22/2006	9/22/2006	Support
L-244	Tinicum Township, Bucks County, PA	Linda McNeill, Township Manager	9/21/2006	9/25/2006	Support
L-245	Individual	Damon Aherne	9/27/2006	9/27/2006	Support
L-246	Individual	Robert B. Stanfield	9/27/2006	9/27/2006	Support
	COMMENTS RECEIVED AFTER SEPTEMBER 27, 2006 DEADLINE				
L-247	Individual	Nancy Comley	9/29/2006	10/2/2006	Support
L-248	Individual	Barbara Likens	10/13/2006	10/13/2006	Support

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	Organization / Agency / Individual	Signer	Letter Dated	Letter Received	Position
L-249	Individual	Susan J. Young	10/21/2006	10/27/2006	Support
L-250	Pike County Commissioners	Harry Forbes Richard A. Caridi Karl A. Wagner, Jr.	10/25/2006	10/30/2006	Support
	WRITTEN COMMENTS RECEIVED - 2007				
L-251	Individual	Lorraine Greer	1/8/2007	1/11/2007	Support
L-252	Individual	Eusebius Ballentine	1/18/2007	1/18/2007	Support
L-253	Individual	Nona Gross	2/22/2007	2/22/2007	Support
L-254	Individual	Nichole Hoffman	4/30/2007	5/4/2007	Support
L-255	U.S. D.O.I., Conservation and Recreation Assistance, Northeast Region	Joseph DiBello, Manager	6/25/2007	7/2/2007	Support w/comments
L-256	Individual	Karen Powers	6/28/2007	12/6/2007	Support
L-257	Individual	Noel Beyrer	8/16/2007	8/20/2007	Support
L-258	Individual	C. P. Manz	8/20/2007	8/20/2007	Support
L-259	Individual	Isabel Keppel	8/21/2007	8/23/2007	Support
L-260	Individual	Elaine Cooper	8/23/2008	8/27/2007	Support
L-261	Individual	Michael, Joan McNally	8/25/2007	8/27/2007	Support
L-262	Individual	Roy Kleinle	8/24/2007	8/27/2007	Support
L-263	Individual	Sheila & Robert Salmon	8/28/2007	8/30/2007	Support
L-264	Individual	Ronald Fraioli	8/28/2007	8/30/2007	Support
L-265	Individual	Joe Zenes	8/28/2007	8/30/2007	Support
L-266	Individual	E. Richtscherdt	8/28/2007	8/30/2007	Support

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	Organization / Agency / Individual	Signer	Letter Dated	Letter Received	Position
L-267	Individual	Elaine Reichert	8/28/2007	8/30/2007	Support
L-268	Individual	John Caizza	8/28/2007	8/30/2007	Support
L-269	Individual	William Irwin-d'Estrees	8/28/2007	8/30/2007	Support
L-270	Individual	Esther Irwin	8/28/2007	8/30/2007	Support
L-271	Individual	Judith Kaplan	8/28/2007	8/30/2007	Support
L-272	Individual	Anita Ng	8/28/2007	8/30/2007	Support
L-273	Individual	Patrick Ray	8/28/2007	8/30/2007	Support
L-274	Individual	Eileen McGowan	8/28/2007	8/30/2007	Support
L-275	Individual	Cinken	9/15/2007	9/15/2007	Support
L-276	Philadelphia Water Department	Bernard Brunwasser, Commissioner	9/24/2007	9/24/2007	Support w/comments
L-277	Individual	Mark Stone	9/26/2007	10/10/2007	Support
L-278	Individual	Jon Levin	10/16/2007	10/17/2007	Support
L-279	Individual	Domalley	10/16/2007	10/17/2007	Support
L-280	Individual	James & Judy Rosenthal	10/17/2007	10/22/2007	Support
L-281	Individual	Pat Brundage	10/17/2007	10/22/2007	Support
L-282	Individual	Nichole Deitrick	10/17/2007	10/22/2007	Support
L-283	Individual	Janet Bukovinsky	10/17/2007	10/22/2007	Support
L-284	Individual	Christopher Meyers	10/18/2007	10/22/2007	Support
L-285	Individual	cmolldrem	10/24/2007	10/24/2007	Support
L-286	Individual	Rhoda Bryan	10/24/2007	10/26/2007	Support
L-287	Individual	Elise & Tom Murray	10/26/2007	10/30/2007	Support
L-288	Individual	Harold Deal	11/2/2007	11/7/2007	Support
L-289	Individual	Gail Rocke	11/5/2007	11/8/2007	Support

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	Organization / Agency / Individual	Signer	Letter Dated	Letter Received	Position
L-290	Individual	Ruth Ross	11/6/2007	11/13/2007	Support
L-291	Wild & Scenic Lower Delaware Management Committee	Gregg Rackin	11/9/2007	11/15/2007	Support
L-292	Individual	Smile	11/18/2007	11/19/2007	Support
L-293	Sourland Planning Council	Andrea Bonette	11/16/2007	11/19/2007	Support
L-294	Tinicum Township	Gary Pearson	11/21/2007	11/26/2007	Support
L-295	Individual	Nancy Thomson	11/24/2007	11/27/2007	Support
L-296	Town of Phillipsburg	Harry Wyant, Mayor	11/20/2007	11/27/2007	Opposed w/comments
L-297	Board of Supervisors, Nockamixon Township	James Litzenberger	11/20/2007	11/27/2007	Support
L-298	Individual	Peter Pray	11/26/2007	11/28/2007	Support
L-299	National Park Service, Delaware Water Gap National Recreation Area	John Donahue	11/28/2007	11/28/2007	Support w/comments
L-300	Individual	thepilatesguy	11/21/2007	11/29/2007	Support
L-301	Individual	Dean Holden	11/28/2007	11/30/2007	Support
L-302	Board of Supervisors, Bedminster Township	Eric Schaffhausen	11/23/2007	11/30/2007	Support
L-303	Individual	Neil Gerwig	12/3/2007	12/3/2007	Support
L-304	Individual	Judith Henckel	12/1/2007	12/3/2007	Support
L-305	Individual	Robert Gerwig	12/2/2007	12/3/2007	Support
L-306	Individual	Earl & Margaret Ackerman	12/2/2007	12/3/2007	Support
L-307	Individual	Frank Capobianco	12/2/2007	12/3/2007	Support
L-308	Upper Mount Bethel Twp. Environmental Advisory Council (EAC)	Judith Henckel	12/3/2007	12/3/2007	Support

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	Organization / Agency / Individual	Signer	Letter Dated	Letter Received	Position
L-309	Individual	Uke Jackson	12/4/2007	12/4/2007	Support
L-310	Individual	dglord	12/4/2007	12/4/2007	Support
L-311	Individual	Mary Rawl	12/4/2007	12/4/2007	Support
L-312	West Amwell Twp.	Ronald Shapella, Mayor	11/29/2007	12/4/2007	Support
L-313	Individual	Har263	12/3/2007	12/4/2007	Support
L-314	Association of Environmental Authorities	Ellen Gulbinsky	12/3/2007	12/4/2007	Opposed w/comments
L-315	Individual	A. Robert Johnson	12/4/2007	12/4/2007	Support
L-316	Individual	James Skinner	12/4/2007	12/4/2007	Support
L-317	Individual	Andrea Hoffman	12/4/2007	12/4/2007	Support
L-318	Individual	Jason Bentzoni	12/4/2007	12/4/2007	Support
L-319	Individual	John Maher	12/3/2007	12/5/2007	Support
L-320	NJ Conservation Foundation	Alison Mitchell	11/30/2007	12/5/2007	Support
L-321	Individual	Info	12/4/2007	12/5/2007	Support
L-322	PA Municipal Authorities Association	Peter Slack	12/5/2007	12/5/2007	Opposed w/comments (prev. submitted in 2004)
L-323	Individual	Barb Likens	12/4/2007	12/5/2007	Support
L-324	Individual	Eric Butto	12/4/2007	12/5/2007	Support
L-325	Individual	Mary Ellen Noonan	12/4/2007	12/5/2007	Support
L-326	Individual	G. Hinesley	12/4/2007	12/5/2007	Support
L-327	Native American Alliance of Bucks County	Danaube Buchanan	12/4/2007	12/5/2007	Support

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	Organization / Agency / Individual	Signer	Letter Dated	Letter Received	Position
L-328	Preservationists of Native American Sites	Michael Czwaras	12/4/2007	12/5/2007	Support
L-329	Anigiduhwa Intertribal Interfaith Confederation, Inc.	Fred Sutherland	12/4/2007	12/5/2007	Support
L-330	NJ American Indian Alliance, Inc.	Strong Horse	12/4/2007	12/5/2007	Support
L-331	City of Allentown	Robert Rost	12/4/2007	12/5/2007	Opposed w/comments
L-332	PA Chamber of Business & Industry	Gene Barr	12/5/2007	12/5/2007	Opposed w/comments (prev. submitted in 2004)
L-333	BASF Corporation	Alan Bahl	12/5/2007	12/5/2007	Opposed w/comments
L-334	Individual	pen615	12/4/2007	12/6/2007	Support
L-335	Individual	murphyewn	12/4/2007	12/6/2007	Support
L-336	Individual	M. K. Sheehan	12/4/2007	12/6/2007	Support
L-337	Individual	dbickin	12/4/2007	12/6/2007	Support
L-338	Individual	Scott Sherlock	12/5/2007	12/6/2007	Support
L-339	Individual	clairew	12/5/2007	12/6/2007	Support
L-340	Individual	lionellcr	12/4/2007	12/6/2007	Support
L-341	Lehigh Valley Group, PA Chapter, Sierra Club	Barbara Benson	12/5/2007	12/6/2007	Support w/comments
L-342	Delaware Riverkeeper Network	Maya van Rossum	9/26/2007	12/6/2007	Support w/comments

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	Organization / Agency / Individual	Signer	Letter Dated	Letter Received	Position
L-343	Individual	Dorothy Owens	12/5/2007	12/6/2007	Support
L-344	Individual	Roxane Shinn	12/5/2007	12/6/2007	Support
L-345	Individual	S. A. Katz	12/5/2007	12/6/2007	Support
L-346	Individual	Lewis Gorman	12/5/2007	12/6/2007	Support
L-347	Individual	Earle Seneres	12/5/2007	12/6/2007	Support
L-348	Individual	Chris Shull	12/5/2007	12/6/2007	Support
L-349	Individual	Matthew Willson	12/5/2007	12/6/2007	Support
L-350	Individual	Patricia Corbett	12/5/2007	12/6/2007	Support
L-351	Individual	Michael Gilman	12/5/2007	12/6/2007	Support
L-352	Individual	Lee Snyder	12/5/2007	12/6/2007	Support
L-353	Individual	Ellen Zinni	12/5/2007	12/6/2007	Support
L-354	Individual	Stacey Ayala	12/5/2007	12/6/2007	Support
L-355	Individual	Gina Carola	12/5/2007	12/6/2007	Support
L-356	Individual	Edward Kaliss	12/5/2007	12/6/2007	Support
L-357	Individual	Evan Lemley	12/5/2007	12/6/2007	Support
L-358	Individual	Millie Kaliss	12/5/2007	12/6/2007	Support
L-359	Individual	Lorraine Greer	12/5/2007	12/6/2007	Support
L-360	Individual	Susan Roeloffs	12/5/2007	12/6/2007	Support
L-361	Individual	Fred Stine	12/5/2007	12/6/2007	Support
L-362	Individual	Matthew Kicinski	12/5/2007	12/6/2007	Support
L-363	Individual	Susan Kennedy	12/5/2007	12/6/2007	Support
L-364	Individual	Judith Hendin	12/5/2007	12/6/2007	Support
L-365	Individual	Richard O'Connor	12/5/2007	12/6/2007	Support

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	Organization / Agency / Individual	Signer	Letter Dated	Letter Received	Position
L-366	Individual	Ruth Benedict	12/5/2007	12/6/2007	Support
L-367	Easton Area Joint Sewer Authority	Samuel Becker	12/3/2007	12/6/2007	Opposed w/comments
L-368	Water Resources Association of the Delaware River	Robert Molzahn	12/6/2007	12/6/2007	Opposed w/comments
L-369	Individual	Barbara Ross	12/6/2007	12/7/2007	Support
L-370	PA Water Environment Association	Hugh Archer	12/6/2007	12/7/2007	Opposed w/comments
L-371	Manko Gold Katcher Fox LLP	Marc Gold	12/6/2007	12/7/2007	Opposed w/comments
L-372	Reliant Energy	Thomas Teitt	12/6/2007	12/7/2007	Opposed w/comments
L-373	Conectiv Energy	May Johnson	12/6/2007	12/7/2007	Opposed w/comments
L-374	Multiple Organizations	Maya van Rossum	12/6/2007	12/7/2007	Support w/comments
L-375	Lehigh County Authority	Aurel Arndt	12/6/2007	12/7/2007	Opposed w/comments
L-376	Omni Environmental for Easton, Allentown, Bethlehem and Catasaqua	Thomas Amidon	12/6/2007	12/7/2007	Opposed w/comments
L-377	Individual	jerseyakman	12/6/2007	12/7/2007	Support
L-378	Individual	Thomas Bingenheimer	12/5/2007	12/7/2007	Support

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	Organization / Agency / Individual	Signer	Letter Dated	Letter Received	Position
L-379	CDM for Lambertville Sewerage Authority (LSA)	James Brandes	12/6/2007	12/7/2007	Opposed w/comments
L-380	Individual	Scott	12/6/2007	12/7/2007	Support
L-381	AMETEK	Mark Scheurer	12/6/2007	12/7/2007	Opposed w/comments
L-382	Eastern PA Water Pollution Control Operators Association	Mark Schober	12/6/2007	12/7/2007	Opposed w/comments
L-383	Cerenzio & Panaro, PC for Sussex County MUA	Edward Enright	12/6/2007	12/7/2007	Opposed w/comments
L-384	Cerenzio & Panaro, PC for Warren County (Pequest River) MUA	Edward Enright	12/6/2007	12/7/2007	Opposed w/comments
L-385	PPL Services Corp.	Nancy Evans	12/6/2007	12/7/2007	Opposed w/comments
L-386	Borough of Frenchtown	Vincent Gilardi	12/6/2007	12/7/2007	Opposed w/comments
L-387	Individual	Ruth Baker	12/6/2007	12/7/2007	Opposed w/comments
L-388	Aqua Pennsylvania	Preston Luitweiler	12/6/2007	12/7/2007	Opposed w/comments
L-389	Township of Hopewell	Paul Pogorzelski	12/6/2007	12/7/2007	Support w/comments

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	Organization / Agency / Individual	Signer	Letter Dated	Letter Received	Position
L-390	Individual	Unsigned (email: Lli47@aol.com)	10/18/2007	10/19/2007	Support w/comments
L-391	Individual	Warren Schaich	10/30/2007	11/2/2007	Support
	TESTIMONY GIVEN AT COMMISSION PUBLIC HEARING ON OCTOBER 27, 2004				
T-1	U.S. Senate, Frank R. Lautenberg, NJ	Jennifer Sneed, Projects Coordinator and Constituent Advocate	10/27/2004		Support
T-2	New Jersey Environmental Federation	Sharon Finlayson	10/27/2004		Support
T-3	Delaware River Greenway Partnership and Lower Delaware Wild and Scenic Management Committee	John Brunner	10/27/2004		Support
T-4	Pollins Kill Valley Trail (Warren County, NJ)	Billy Givens	10/27/2004		Support
T-5	New Jersey Audobon Society	Ted Korth	10/27/2004		Support
T-6	Delaware Riverkeeper Network	Tracy Carluccio	10/27/2004		Support
T-7	Delaware Riverkeeper Network	Mary Ellen Noble	10/27/2004		Support
T-8	Delaware Riverkeeper Network	Maya van Rossum	10/27/2004		Support
T-9	Delaware Riverkeeper Network	Virgil Madalay	10/27/2004		Support
	TESTIMONY GIVEN AT COMMISSION PUBLIC HEARING ON SEPTEMBER 27, 2006				
T-10	National Park Service	Charles Barscz	9/27/2006	9/27/2006	Support
T-11	Tidewaters Gateway Partnership	Richard McNutt	9/27/2006	9/27/2006	Support
T-12	Delaware Riverkeeper Network	Mary Ellen Noble	9/27/2006	9/27/2006	Support

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	Organization / Agency / Individual	Signer	Letter Dated	Letter Received	Position
	TESTIMONY GIVEN AT COMMISSION PUBLIC HEARING ON SEPTEMBER 26, 2007				
T-13	Delaware Riverkeeper Network	Tracy Carluccio	9/26/2007	9/26/2007	Support
T-14	Philadelphia Water Department	Christopher Crockett	9/26/2007	9/26/2007	Support
	TESTIMONY GIVEN AT COMMISSION PUBLIC HEARING ON DECEMBER 4, 2007				
T-15	Delaware Riverkeeper Network	Tracy Carluccio	12/4/2007	12/4/2007	Support
T-16	West Sierra Club; Cooper River Watershed Association	Edward Kaliss	12/4/2007	12/4/2007	Support
T-17	Stonybrook Millstone Watershed Association	Susan Charkes	12/4/2007	12/4/2007	Support
T-18	Tidewaters Gateway Partnership	Richard McNutt	12/4/2007	12/4/2007	Support
T-19	Wild & Scenic Lower Delaware Management Committee	Gregg Rackin	12/4/2007	12/4/2007	Support
T-20	Cherokee Elder, Ani-Giduwa Interfaith Confederation; Preservationists of Native American Sites; Native American Life of Bucks County; NJ American Indian Alliance	Donna Walkie-Kevin	12/4/2007	12/4/2007	Support
T-21	Mount Holly Municipal Utilities Authority	William Dunn	12/4/2007	12/4/2007	Support & Oppose

Table 2: Summary of Issues Raised 2004-2007

Subject	Question #	Question	Commenter	Page #
I. Extent of and Basis for Designation				
Extent of and Basis for Designation	1.1	Does Outstanding Basin Waters classification require Wild and Scenic designation?	L-133	1
Extent of and Basis for Designation	1.2	Should main stem river segments outside of the federal system be removed from this proposal?	L- 115; 181	1
Extent of and Basis for Designation	1.3	Should DRBC classify the entire Lower Delaware River as Outstanding Basin Waters?	L-161; 341	1
Extent of and Basis for Designation	1.4	If, prior to the Commission vote on this proposal, a municipality passes a resolution supporting the inclusion of its River segment in the federal Wild & Scenic system, should that River segment automatically be classified as Outstanding Basin Waters?	L-190	2
Extent of and Basis for Designation	1.5	Should Tohickon and Tinicum creeks be classified as SPW?	L- 26; 34	2
Extent of and Basis for Designation	1.6	Should RM 193.8 to 185.55 be classified as OBW since it is included in the Federal system?	L- 162; 190	2
Extent of and Basis for Designation	1.7	Portions of the River below Portland lack "exceptional" value and do not merit special protection status because there are a variety of communities, wastewater treatment plants, a power generation facility, and industries along the river.	L- 115; 332; 372; 373	2
Extent of and Basis for Designation	1.8	Supporting Commission studies have failed to evaluate with proper precision sections of the river where water quality, while meeting basic standards, would not be characterized as so extraordinary as to place the river on a special protection pedestal.	L-332; 372, 373	3
Extent of and Basis for Designation	1.9	DRBC's threshold for special protection appears to be much lower than that of Pennsylvania's (PA) antidegradation program. This rulemaking action conflicts with the extensive high quality waters approach implemented by the State of New Jersey under Category 1 use protection and the Highlands Protection Act; and is at odds with Pennsylvania's approach to protection of high quality waters. This rulemaking action ignores State of New Jersey actions regarding "Wild and Scenic River" designations and New Jersey's program for protecting water quality in those waters.	L-314; 331; 332; 367; 372; 373	5
Extent of and Basis for Designation	1.10	Virtually all of the monitoring points selected were located upstream of major dischargers, and the data from these "good" sites supported SPW designation. These data were not representative of actual conditions in the river.	L-332; 372; 373	12

Table 2: Summary of Issues Raised 2004-2007

Subject	Question #	Question	Commenter	Page #
Extent of and Basis for Designation	1.11	Given the range of uses and activities along the river's mainstem, the Commission cannot justify classifying all of the mainstem in an unbroken chain from the Water Gap to Trenton as SRW.	L-332; 372; 373	13
Extent of and Basis for Designation	1.12	The designations should be revised to include only those areas that are within the scenic river system or have truly exceptional water quality.	L-332; 372; 373	13
Extent of and Basis for Designation	1.13	The Commission's proposed permanent classification of the entire Lower Delaware reach as SRW is inconsistent with the recognized impairment of portions of the Lower Delaware. Why should known impaired sections of the river merit special antidegradation protection?	L-332; 371; 372; 373; 387	13
Extent of and Basis for Designation	1.14	The SPW regulation's NMC policy for SRW is too stringent a standard for the Lower Delaware, in particular when compared to the Federal antidegradation policy. The regulation effectively and inappropriately places the Lower Delaware at a level of protection akin to the Federal Tier 3 antidegradation classification, where Tier 2 should be the maximum level of protection applied.	L-332; 371; 372; 373	13
Program Rationale	1.15	Is this proposal based upon a view that the River should be characterized as either impaired, and requiring TMDLs, or as Special Protection Waters that cannot be degraded?	L-181; 115; 332; 372; 373	14
Program Rationale	1.16	This proposal represents a one-size-fits-all approach to addressing specific parameter concerns for specific dischargers	L-182	14
Program Rationale	1.17	We fail to see the logic (technical, legal or otherwise) for DRBC to adopt a provision that freezes point source allowable effluent loadings at pre-2005 levels. Current water quality programs protect uses sufficiently, and caps should not be placed where no impacts are demonstrated.	L-322; 386; 387; 388	15
Program Rationale	1.18	Shouldn't the goal be to meet established water quality criteria, and not to impose more stringent standards that provide little additional benefit?	L-185; 332; 372; 373	15
Program Rationale	1.19	Recreation and water supply uses occur through most of the Delaware Basin, and the mere observation of those uses does not mean, and cannot be used to justify, an "exceptional high" value finding.	L- 181	16
Program Rationale	1.20	Is there too much flexibility in allowing degradation in SRW and OBW?	L-133	16
Program Rationale	1.21	Why impose more stringent requirements across the board when secondary treatment has led to high water quality in the Lower Delaware?	L-102; 382; 387; 388	16
Program Rationale	1.22	Is upgrading the river to SPW status necessary since existing regulations (including TMDL provisions) already protect stream uses?	L-122.; 180; 181; 182; 115; 322; 332; 372; 373; 382; 387; 388	17

Table 2: Summary of Issues Raised 2004-2007

Subject	Question #	Question	Commenter	Page #
Program Rationale	1.23	Does DRBC need to designate every upstream tributary as SPW to protect downstream areas, since properly treated discharges may not result in measurable change in downstream designated areas?	L-181	17
Program Rationale	1.24	Shouldn't DRBC focus on addressing concerns with specific dischargers and implement a cooperative non-point strategy for each rather than make the designation?	L-181	18
Legal/Regulatory Issues	1.25	This rulemaking action is duplicative.	L-314	18
Legal/Regulatory Issues	1.26	The comment period is entirely too short for substantial review of such complex legislation. Any actions of this sort by DRBC should have been noticed directly to those holding discharge permits and DRBC dockets, and to the municipalities, chambers of commerce, and trade groups of the Lower Delaware.	L-104; 115; 180; 181; 368; 382; 387	19
Legal/Regulatory Issues	1.27	Has DRBC conducted a cost-benefit analysis in conjunction with this proposal? The Commission has acknowledged that it has not conducted an economic impact study of the proposed regulations, or an evaluation of the costs of implementing the regulations. Why? The needs of a growing population and economic stability must be considered. Critical information and analysis of environmental impacts, justice, benefits, and costs are nowhere found in the rulemaking record. A rulemaking action of this magnitude should not proceed absent such analysis, which should be completed and provided to stakeholders. Has DRBC asked an impartial group reflecting business, municipal, residential, state government, and environmental interests to assess the costs that the regulated community is likely to incur?	L-182; 238; 322; 331; 332; 367; 368; 370; 372; 373; 375; 382; 385; 387; 388	22
Legal/Regulatory Issues	1.28	This rulemaking is a major federal action affecting the environment. Under NEPA, alternative approaches and impact analyses are conducted routinely for such rulemaking, especially for rules such as this that radically alter regulatory practices. This proposal failed to do so, and should defer action until such a review has been conducted.	L-314; 331, 367; 368; 370; 375; 382	26
Legal/Regulatory Issues	1.29	DRBC should at least adopt some meaningful threshold level of waste discharge, or discharge increase, before imposing requirements aimed at "no measurable change" in water quality.	L-238; 322	27

Table 2: Summary of Issues Raised 2004-2007				
Subject	**Question #**	**Question**	**Commenter**	**Page #**
Legal/Regulatory Issues	1.30	We question the legal basis for the DRBC defining BDT, which appears to run contradictory to the provisions of the federal CWA that defines the technology limitations for treatment facilities and requires the more restrictive of water quality standards and/or the technology limitations.	L-370	27
Legal/Regulatory Issues	1.31	This rulemaking takes an unnecessarily restrictive approach which on balance will cause more environmental harm than good and waste local resources.	L-331; 332; 367; 372; 373; 375; 386	28
Legal/Regulatory Issues	1.32	There was no apparent consideration of alternative approaches that would achieve the goals of the SPW designation while imposing lesser costs on watershed communities. Least cost measures must be considered, as with any federal regulatory initiative. DRBC should examine alternatives to designation, including convening a stakeholder process to address issues in specific reaches, as well as broader efforts such as non-point control programs.	L-180; 322; 331; 332; 367; 372; 373; 375; 382; 385; 387; 388	28
Legal/Regulatory Issues	1.33	What specific legal and programmatic ramifications will this rulemaking have upon state NPDES and water quality standards programs, and how this rulemaking will integrate with existing rules?	L-370; 382; 385; 388	28
Legal/Regulatory Issues	1.34	This SPW non-degradation approach may not be environmentally sound, due to high energy expenditures for such processes as reverse osmosis, and harmful salts and by-products from nutrient treatment methods. It is unfortunate DRBC has chosen to promote UV disinfection and nutrient removal systems without considering them with regard to sustainability. While these treatment process can be effective, they can also be very energy and chemically intensive. At some point, this results in greater environmental harm than good. We submit that all proposed plant improvements should be evaluated through the lens of sustainability and that preferential treatment for any system should be eliminated from the regulation entirely.	L-314; 331; 367; 375; 379; 382; 386	29
Legal/Regulatory Issues	1.35	Nowhere in this rulemaking package is there any recognition or analysis of the current New Jersey C1 program and its ability to achieve the goals of the SPW designation related to the major New Jersey tributaries. This is a critical oversight that must be rectified.	L-314	30

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Legal/Regulatory Issues	1.36	It is very difficult to make an evaluation of effects of the proposed program upon water users and dischargers without a detailed guidance document. It is unfair to defer issuance of the guidance document until after the comment period has ended. There are too many details to be assessed without knowing how implementation would proceed, and such guidance should be available during the comment period. Commission should defer final decisions until guidance document is released, and until further discussions and public workshops are held with the regulated community and other concerned parties.	L-322; 368; 376; 381; 382; 385; 387; 388	30
Legal/Regulatory Issues	1.37	There are no methodologies specified for demonstration of no measurable change for new or expanding facilities. This regulatory proposal should be deferred until such a basic management tool becomes available. The proposed amendments place an undue burden on the next facility in a watershed that happens to trigger a DRBC anti-degradation review. This facility may have to perform a watershed-wide study that accounts for all point sources in a watershed. This represents a substantial undertaking in a large and complex watershed like the Lehigh, especially as existing data are not adequate for such a study. These types of studies should be undertaken by the regulatory agency in coordination with affected parties, not imposed on the first community that happens to come under regulatory review.	L-314; 322; 331; 367; 368; 376; 381; 382; 385; 387; 388	31
Legal/Regulatory Issues	1.38	The underlying legislation indicated that EWQ should be maintained, but did not indicate that non-measurable changes in water quality should be regulated. The legislation did not state that excessive treatment requirements should be imposed on facilities causing no measurable degradation to EWQ. The underlying legislative authority does not support forcing construction of additional treatment to address loadings associated with non-measurable impacts, or the associated feasibility and affordability tests for alternative treatment technologies. DRBC is not authorized to impose additional treatment requirements where measurable degradation is not demonstrated.	L-314; 331; 367; 371; 376	33
Legal/Regulatory Issues	1.39	Tests for constructing alternative treatment should be based on cost-effectiveness and practicality, as directed in the management plan, not affordability and feasibility. It is uncertain what legal authority is being	L-314; 331; 367; 371; 376	34

Table 2: Summary of Issues Raised 2004-2007				
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		used to impose these more restrictive tests on municipal governments, and the rules should be modified to conform to existing federal and state authority. Affordability and feasibility tests are not part of the federal program for antidegradation implementation, and DRBC lacks authority to create a new test for imposing treatment costs on municipal governments that is not related to some demonstrated environmental need.		
Legal/Regulatory Issues	1.40	A stakeholder task group should be established to evaluate alternative approaches and set forth reasonable procedures that properly consider existing plant performance and approved growth at permitted facilities. This group should address the serious flaws in the proposal, contribute to a Manual of Practice, discuss solutions with affected parties, and then propose workable, fair and meaningful regulations. There needs to be more of an inclusive, open discussion of the options available to achieve water quality goals.	L-331; 367; 368; 375; 376; 382; 387; 388	35
Legal/Regulatory Issues	1.41	This proposal targets only those sites that are major water users or waste dischargers. The Commission proposes to DELETE requirements for non-point sources to meet the same standards as point sources. This ignores the largest source of water pollution, and unfairly shifts responsibility to those sites that have done the most to reduce river pollution.	L-333; 368; 375; 381; 385	36
Legal/Regulatory Issues	1.42	Removal of the "actual concentration" standard from the definition for "Existing Water Quality" has consequences for waters that may in the future be subject to SPW regulations, and it deprives stakeholders of a benchmark against which to measure the Commission's future determinations of EWQ at locations other than those identified in Table 2. In addition, guidance should be issued that explains exactly how EWQ may be extrapolated to sites without BCPs or ICPs.	L-371	37
Legal/Regulatory Issues	1.43	DRBC needs to clarify the requirements for Non-Point Source Pollution Control Plans as they apply to public authorities. We note that the authority of NJ utility authorities to address stormwater is currently the subject of legislation pending in the NJ legislature. As proposed, the DRBC regulations appear to shift to these authorities' obligations beyond the scope of their current legal authority. More fundamentally, the proposed regulation appears to shift the costs of stormwater compliance to authority ratepayers from otherwise responsible developers and other stormwater	L-379	37

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		permit holders.		
Legal/Regulatory Issues	1.44	Why not continue to extend temporary designation until the consequences of implementation can be truly assessed? Commentator urges extension of temporary designation for a period of up to 5 years, during which criteria may be implemented in phases, with annual evaluations of implementation effects for review and comment by the public. Such reports should address benefits, costs, and consequences of the implementation.	L-387; 388	38
II. Impacts of Designation				
Effects on Development & Redevelopment	2.1	Will these regulations affect the ability to develop low-cost housing by requiring on-lot systems that are inconsistent with small lot sizes?	L-102	39
Effects on Development & Redevelopment	2.2	Would the proposed amendments allow for discharge from a redevelopment site to the proposed OBW and would they preclude stormwater runoff?	L-122.	39
Effects on Development & Redevelopment	2.3	What are the potential unintended consequences of this proposed regulation on redevelopment of brownfield sites?	L-181; 332; 372; 373	40
Effects on Development & Redevelopment	2.4	If these regulations were in place at the time when the Bethlehem Steel site was redeveloped to install a power generation facility with a re-circulating cooling system that discharges harmless mineral TDS, would NMC provisions be triggered at the Lehigh BCP? How would NMC policy be applied to this case?	L-332; 372; 373	40
Effects on Development & Redevelopment	2.5 2.5A 2.5B	Does this rule place the Lehigh Valley at a distinct economic competitive disadvantage with other regional, national, and international communities? Are the costs for this program being borne by the actual generator of water quality impairments? Is there a more effective program for maintaining the quality of the Delaware River for its multiple uses?	L-375; 382; 388	41
Effects on Development & Redevelopment	2.6	Some exceptions to NMC policy should be allowed so that economic vitality is not stifled. Will the proposed amendments stifle economic renewal and investment by putting the river in a virtual "off limits to development" zone, especially for riverfront redevelopment projects? Will these regulations seriously constrain development on tributaries? This rulemaking will have adverse and widespread socioeconomic impacts on sustainable growth in the Delaware River watershed. The concept of "no measurable change" in EWQ	L-115; 122; 162; 181; 182; 332; 367; 370; 372; 373; 385; 388	42

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		carries with it an implicit cap on growth and development, and creates an imbalance in regional versus statewide costs for municipal wastewater treatment. NMC and BDT essentially eliminate the natural assimilative capacity of a water body. Could there be negative impacts to future employment, due to industries not locating where discharge requirements are high, because of this designation?		
Effects on Development & Redevelopment	2.7	Mindful of unintended consequences of this rulemaking that may adversely affect water quality of the Delaware Estuary, the Coalition requests that the Commission provide a complete analysis on the potential effects on growth in the estuary that may result from this permanent SPW designation. This rule may drive additional dischargers away from the Lower Delaware and toward the estuary.	L-371	44
Effects on Development & Redevelopment	2.8	An enormous sum ($40 million plus) of taxpayer monies were spent for one discharger in the Brodhead watershed to move a desirable project forward. Is this a very unsettling harbinger of things to come on the Lower Delaware?	L-387	44
No Measurable Change	2.9	“No Measurable Change” should be explicitly defined in the rule.	L-185	45
No Measurable Change	2.10	Does the "No Measurable Change" policy apply to all water quality parameters, even those not listed in the rule?	L-102	46
No Measurable Change	2.11	Do DRBC rules allow for any degradation beyond a narrowly confined mixing zone, from direct discharges or from tributaries if the increases would have no impact on biota or river uses?	L-180	46
No Measurable Change	2.12	Would a plan to provide for regional treatment, to be discharged in the lower Brodhead watershed, be impacted by the "no measurable change" requirement?	L-180	47
No Measurable Change	2.13	Do DRBC rules provide exceptions to "no measurable change" based upon evidence of Social and Economic Justification? Some exceptions to NMC policy should be allowed so that economic vitality is not stifled. Does a social and economic justification consider the nature and degree of impacts as well as the actual uses of the affected stream reach?	L-115; 180; 181	47
No Measurable Change	2.14	Should DRBC modify its regulations to allow for a social and economic justification exception to "no measurable change" beyond mixing zones and where a tributary enters the Delaware?	L-180; 181	48
No Measurable Change	2.15	Absolute numerical concentration limits will not achieve "no measurable change" because a) reduction of inflow may increase concentrations while loadings	L-194	48

Table 2: Summary of Issues Raised 2004-2007				
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		remain unchanged or decrease, b) increases in the use of groundwater infiltration BMPs may augment stream flow, and c) increases in concentration or loading may be needed when intercepting "wildcat" sewer discharges or taking on previously unsewered areas with failing septic systems.		
No Measurable Change	2.16	In the definition of NMC, defining a lower 95% confidence limit would prevent a facility from reducing pollutant loadings, because that would be a prohibited "change" (albeit a reduction). Clearly this is not the intended regulatory effect.	L-333	49
No Measurable Change	2.17	Lacking a guidance document, the following NMC questions are unanswerable. What are the implications for Allentown, Bethlehem, Easton and Catasauqua treatment plants? What stream flows will be assumed for the analysis? Will additional effluent sampling be required for constituents not currently monitored? How exactly will permitted loads be characterized?	L-376	50
No Measurable Change	2.18	Since the definition of EWQ fails to account for existing permitted loads, it is likely for large watersheds that existing facilities will cause a measurable change in EWQ simply by discharging what they are permitted to discharge. DRBC must modify the manner in which it implements NMC to account for this.	L-376	52
Existing Facilities	2.19	Is it DRBC's intent to grandfather, or to allow State NPDES programs to grandfather, existing NPDES permitted point source dischargers from the upgraded designation? The proposed rule lacks specificity in defining the impacts that it may have on new, expanding or existing discharges	L- 133; 185	53
Existing Facilities	2.20	It is essential that existing permitted flows and loads be included in the definition of EWQ. If it is shown that currently permitted loads would cause a violation of water quality criteria, then remedial action such as a TMDL would be the appropriate regulatory action.	L-376; 386	54
Existing Facilities	2.21	It is not clear why simply updating an existing facility triggers a conclusion that a measurable degradation is occurring. The two issues are not obviously connected, as an alteration in and of itself would have minimal effect upon EWQ. Only expansions should trigger application of antidegradation requirements.	L-331; 367; 371; 379	55
Existing Facilities	2.22	The proposed changes will in fact undermine DRBC water quality goals, by discouraging needed improvements to wastewater treatment and by penalizing treatment plants that invest in better technology and equipment. [Clarification language is	L-379; 383; 384	55

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		suggested by commenter.]		
Existing Facilities	2.23	It is not apparent whether a plant expansion to treat greater wet weather flows, previously discharged without treatment, would trigger antidegradation provisions. DRBC should specifically clarify that this environmentally beneficial situation does not trigger SPW considerations.	L-322; 331; 367; 371; 379	57
Existing Facilities	2.24	This rulemaking divests dischargers of approved permits and overturns design flows and pollutant loadings without due process. It appears that the DRBC is planning some future "capping" of existing discharges at levels that may be lower than current rates and much lower than permitted rates. If this is the plan, then it should be explicitly stated in the rule, and the impacts should be thoroughly vetted and disclosed.	L-314; 322; 331; 332; 367; 371; 372; 373; 386	57
Existing Facilities	2.25	The "case-by-case" approach for industrial dischargers poses a considerable level of economic uncertainty for industries. In setting baselines for future change, the playing field must be more level and a more fair system of load allocations should be established.	L-332; 372; 373; 385	58
Existing Facilities	2.26	How will these rules affect use of NPDES "general permits" for stormwater in the watershed?	L-332; 372; 373	59
Existing Facilities	2.27	As DRBC has not shown that permitted conditions will fail to reasonably maintain high quality waters, DRBC should grandfather the currently authorized flows and loadings set forth in NPDES permits.	L-314; 331; 367; 371; 383; 384; 386	60
Existing Facilities	2.28	There is no information in the rulemaking record showing that reasonable and practical options exist to meet treatment plant performance levels below existing performance under future flows.	L-314; 331; 367	61
III. Water Quality - Technical Issues				
Representative Monitoring & Existing Water Quality	3.1	Water quality monitoring does not adequately represent the River since sampling locations are typically upstream of major sources of pollutants, including developed areas and tributaries used for disposal of treated wastewater?	L- 115; 122.; 181; 371	61
Representative Monitoring & Existing Water Quality	3.2	Dischargers should be required to establish EWQ rather than use a default value of zero (which is not supported by sound science or existing data) where numeric targets are not adopted?	L-133	62
Representative Monitoring & Existing Water Quality	3.3	Should existing water quality be estimated from data obtained from sites within the same ecoregion or from best professional judgment?	L-162	63
Representative Monitoring &	3.4	Nitrogen and Phosphorus effluent limits should be expressed as annual averages, consistent with nutrient	L-104; 192; 322	63

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Existing Water Quality		limitations being developed for the Chesapeake Bay watershed.		
Representative Monitoring & Existing Water Quality	3.5	Does DRBC have a lower threshold for SPW designation than PA does for EV/HQ designation, where water quality must be better than criteria more than 99% of the time, over a one year period?	L-115; 180; 181	64
Representative Monitoring & Existing Water Quality	3.6	Should DRBC adopt New Jersey's phosphorus criteria?	L-190	65
Representative Monitoring & Existing Water Quality	3.7	Anti-degradation policies should apply when a discharger increases current loads; existing point sources should not be exempt from additional control requirements up to their current NPDES permitted loading.	L-133	65
Representative Monitoring & Existing Water Quality	3.8	May through September monitoring occurs during a time of year when most treatment facilities operate most efficiently, discharging concentrations at levels far below their existing permit limits. Setting EWQ standards at these levels essentially divests dischargers of approved design flow and discharge loadings. Establishing EWQ based upon May through September monitoring is not representative of yearly median average conditions, and seasonally-derived EWQ should not be used on a yearly basis. These should be treated as "seasonal" values only. Since the EWQ data were collected during the summer, the actual variability in water quality concentrations is greatly underestimated. In addition, wastewater discharge quality of ammonia is much better in the summer. The failure of the EWQ definition to account for permitted loads is even more egregious because the ambient sampling occurred only during summer months.	L-314; 331; 367; 371; 372; 376	66
Representative Monitoring & Existing Water Quality	3.9	It is not apparent that the non-degradation targets are directly representative of the collected instream data due to the statistical procedures used to set the limit. The data were log transformed which serves to reduce the calculated mean as compared to the arithmetic approach. This minimizes the impact of high readings during low flow conditions. DRBC should demonstrate that the log transform is the appropriate way to analyze the data and then specify the median flow that accompanies this data set to avoid misapplication of these target values under low flow conditions. Any subsequent measurable change analysis should follow that same procedure to ensure the EWQ standards are applied as they were derived.	L-314; 331; 367; 372	67

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Numeric Values for Existing Water Quality (Water Quality Targets)	3.10	Will targets be created for parameters for which there are currently no discharge standards and to which new and expanded discharges must conform?	L-185	67
Numeric Values for Existing Water Quality (Water Quality Targets)	3.11	The asterisk footnoted in Tables 2C-2Z must be clarified to indicate that these are the only parameters that may be evaluated for point sources to satisfy antidegradation requirements. The rule itself, not just the asterisk footnote, should list the NMC parameters for point source evaluations.	L-376; 379	67
Numeric Values for Existing Water Quality (Water Quality Targets)	3.12	Tables 2C-2Z include a column labeled "flow relationships" that shows regression equations related to flow for many constituents. No information is provided as to how this information is to be used in a NMC analysis.	L-376; 379	68
Numeric Values for Existing Water Quality (Water Quality Targets)	3.13	In the measurable change definition, the reference to "seasonal or non-seasonal" concentrations conflicts with the data in Table 2, which was collected only during the May-September season. By definition, it is not possible to evaluate "no measurable change" other than for the May-September season.	L-333	68
Numeric Values for Existing Water Quality (Water Quality Targets)	3.14	Setting individual tributary standards in addition to mainstem objectives is inappropriate and penalizes facilities on small tributaries. The focus of the non-degradation analysis should be the mainstem of the Lower Delaware, not the individual tributaries that are primarily under State jurisdiction. It is uncertain whether DRBC intends that compliance be demonstrated in each tributary at its associated BCP. Small but measurable changes in tributary concentrations may not be measurable in the larger river. DRBC must present an analysis showing that compliance in tributaries under primary jurisdiction of states is required to ensure that no measurable degradation in mainstem water quality will occur. Thus the proposed approach appears to exceed the legislative purpose of the action.	L-314; 331; 367	69
Numeric Values for Existing Water Quality (Water Quality Targets)	3.15	Many of the parameters selected for the EWQ non-degradation standards have no apparent direct relationship to maintenance of stream uses, have no federal and state narrative and numeric criteria, and are unprecedented from a wastewater treatment perspective. It is not reasonable or practical to regulate these constituents in wastewater discharges. For those parameters not related to uses, such as specific conductance, TDS, alkalinity and hardness, inclusion in EWQ characterization and attempts to	L-314; 331; 367; 370; 376	70

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		freeze them at observed levels does not serve to protect or maintain the Lower Delaware River resource.		
Numeric Values for Existing Water Quality (Water Quality Targets)	3.16	Several of the parameters selected to characterize EWQ are either poor or meaningless indicators of EWQ. These include chlorophyll-a, mid day DO concentration and saturation, and orthophosphate	L-376	71
Numeric Values for Existing Water Quality (Water Quality Targets)	3.17	Several EWQ standards are conflicting and requiring no measurable change in water quality may otherwise be counterproductive. For example, meeting chloride/TDS/conductance may require reverse osmosis (requiring huge energy expenditure) and limit future actions in treating nutrients with metal salts which create a toxic brine. This may cause more environmental harm than good.	L-314; 331; 367	72
Numeric Values for Existing Water Quality (Water Quality Targets)	3.18	The choice of nutrient targets is unsupported and contradictory. One of the underlying goals of the rules appears to be to force nutrient reductions at facilities. Imposing nutrient reductions in a region that is not nutrient impaired or expected to become so without regulatory controls is arbitrary and capricious.	L-314; 331; 367	73
Numeric Values for Existing Water Quality (Water Quality Targets)	3.19	DRBC's granting of an exception to the "no measurable change" requirement for nutrient facilities confirms that related alkalinity, chloride, and specific conductance components are not a serious concern to DRBC.	L-314; 331; 367	73
Numeric Values for Existing Water Quality (Water Quality Targets)	3.20	It is not apparent why individual nutrient forms must be addressed and limited, in addition to total forms. There is no information in the record showing that maintaining both nitrogen and phosphorus levels is necessary to limit algal growth. It is well recognized that phosphorus is typically the limiting nutrient in fresh waters and regulating nitrogen is much more costly and less effective at limiting algal growth.	L-314; 331; 367	75
Numeric Values for Existing Water Quality (Water Quality Targets)	3.21	DRBC needs to reconsider the parameter selection to avoid setting inconsistent EWQ targets. As an upper and lower bound are placed on all constituents, this approach actually prevents a facility from reducing its discharge loading too much, an inherently counterproductive concept. Most importantly, the target levels need some rational connection to use protection needs. Such analysis is not present in the record, and needs to occur before action is taken.	L-331; 367	75
Numeric Values for Existing Water Quality (Water Quality Targets)	3.22	The seasonal, improperly sited data used to establish EWQ were manipulated so that higher values, such as might occur during storm events, were designated as outliers and deleted from the EWQ dataset.	L-372	76
Numeric Values for Existing Water Quality (Water Quality Targets)	3.23	Several of the EWQ targets for ammonia are below the level of detection. Requiring compliance with a non-detect value is impractical and confusing. As ammonia is a critical parameter regulated in most NPDES permits, DRBC should determine the reasonable level	L-331; 367	76

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		of instream ammonia that will fully protect uses with a wide safety margin. This would allow facilities to grow to their design flow conditions without forcing construction of new facilities or abandonment of well-operated technologies such as trickling filters, while fully protecting high-quality waters.		
Numeric Values for Existing Water Quality (Water Quality Targets)	3.24	Footnote to Table 2 conflicts with the proposed definition of 'measurable change' The footnote specifies only median and its CLs, while the definition specifies mean or median.	L-333	77
Numeric Values for Existing Water Quality (Water Quality Targets)	3.25	Footnote to Table 2, specifying only medians and CLs, unfairly restricts EWQ to only "normal periods" because the median tends to reduce the influence of outlier points, such as those encountered during storms or droughts. These "abnormal" periods must also be included when defining EWQ. The Commission should make the mean data available and change the footnote language.	L-333; 372	77
Numeric Values for Existing Water Quality (Water Quality Targets)	3.26	Footnote in table implies 50 data points for each EWQ target while data set clearly shows examples with fewer than 50.	L-387	78
Numeric Values for Existing Water Quality (Water Quality Targets)	3.27	The statement on pg. 76 of Appendix 2 in the Basis and Background document that "For much of the Lower Delaware Special Protection Waters data, we have a sample size of between 40 and 50 observations" is incorrect based on commentator's evaluation of the data. The DRBC should use n=35 instead of n=40.	L-387	78
Numeric Values for Existing Water Quality (Water Quality Targets)	3.28	The analysis on pg. 77 of Appendix 2 in the Basis and Background document is incorrect in using n=38 data points; the complete data set for this site and this parameter is 40. This analysis should be re-done.	L-387	78
Numeric Values for Existing Water Quality (Water Quality Targets)	3.29	How can comparisons between future data and existing data be made for variables with flow-regression relationships given the variable and at times weak correlations in those regression relationships?	L-387	78
Numeric Values for Existing Water Quality (Water Quality Targets)	3.30	"The regulations' Table 2 regression equations for E. coli for the Pequest, Martins Creek, Musconetcong, Tinicum, Bulls Island, Wickecheoke, Washington Crossing, and Trenton monitoring locations; and fecal coliform at the Easton location lack a regression coefficient in the backup for this table (it was noted as being "not significant"); yet the regression equations were still retained. Why is this so?"	L-387	79
Numeric Values for Existing Water Quality (Water Quality Targets)	3.31	"There were regression correlation coefficients given in the backup to Table 2 that were better than most (i.e.>70%), yet no regression equation was presented in Table 2 in these instances (for orthophosphate in the Lehigh River and Martin's Creek, and total suspended solids in the Pequest River). Why was this done?"	L-387	79

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Numeric Values for Existing Water Quality (Water Quality Targets)	3.32	Table 2D lists median values in the regression equation column. Is this a mistake?	L-387	79
Numeric Values for Existing Water Quality (Water Quality Targets)	3.33	Outliers appear to be removed in the calculation of medians and confidence intervals for some parameters at some stations, but these data should be part of the analysis rather than excluded.	L-387	79
Numeric Values for Existing Water Quality (Water Quality Targets)	3.34	Negative values appear to be included in the nitrate data set. Is this correct, and how were these negative values dealt with, if so?	L-387	80
Numeric Values for Existing Water Quality (Water Quality Targets)	3.35	Data appear to be reported above and below the lower detection limit (LDL), and data should only be used above a laboratory's practical quantitation limit (PQL).	L-387	80
Numeric Values for Existing Water Quality (Water Quality Targets)	3.36	Were the lowest concentrations reported in the DRBC database validly detected or simply estimated?	L-387	80
Numeric Values for Existing Water Quality (Water Quality Targets)	3.37	The definitions of Existing Water Quality are below the quantitation limits for a local laboratory. Dischargers may find it difficult to quantify the parameters used to define Existing Water Quality and therefore have difficultly conducting "no measurable change" analyses.	L-387	81
Best Demonstrable Technology	3.38 3.38A	DRBC should determine a threshold level of discharge increase, based on at least a one-year of review of facility discharge quality, before requiring Best Demonstrable Technology effluent limits. Did DRBC consult with PADEP to determine, ahead of time, which dischargers would be subject to Best Demonstrable Technology requirements upon renewal, rather than determining this case-by-case at the time of renewal?	L-104; 192; 322	81 82
Best Demonstrable Technology	3.39	Should DRBC be using Best Demonstrable Technology limits at least as stringent as those used by New Jersey?	L-133	82
Best Demonstrable Technology	3.40	As treatment technology has improved since 1992, BDT should be more stringent than that stated in the rule.	L-341; 374	82
Best Demonstrable Technology	3.41	Will "Best Demonstrable Technology" require capital and operating cost increases to existing dischargers that will need to expand to accommodate growth within their service areas?	L-192; 238; 296; 371; 383; 384	82
Best Demonstrable Technology	3.42	In BDT, nitrogen and phosphorus effluent limitations should be "annual average" limits to be consistent with existing nutrient limitation programs.	L-238	83

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Best Demonstrable Technology	3.43	The regulations state at a minimum that dischargers who are expanding or substantially altering their facilities must design and construct the projects to use BDT. The rule preamble explains that this minimum technology requirement is only supposed to apply for mainstem dischargers; however, the regulations do not state this expressly. Clarification is necessary.	L-314; 322; 331; 367	83
Substantial Alterations or Additions	3.44	The Commission proposes to include in the definition all projects that include a new or increased discharge that was not included in a permit or docket that is "effective on the date of SPW designation." This unfairly penalizes dischargers for the significant lag time that occurs between permit application and issuance that is beyond the discharger's control. The definition should specify those loadings included in an administratively complete permit or docket. [Definition changes are suggested by commenter.]	L-333	84
Substantial Alterations or additions	3.45	This definition appears to be targeted at municipal wastewater treatment plants because it excludes only projects changing disinfection or nutrient removal methods. This narrow definition unfairly restricts this exclusion for industry, because industries may have very different treatment works. If any facility is proposing to upgrade treatment of any type, it should not be penalized by having to go through regulatory review. [Definition changes are suggested.]	L-333; 379; 385	84
Substantial Alterations or additions	3.46	Guidance must be issued that clearly defines what activities are considered "substantial alterations or additions." The proposed definition lacks clarity and causes confusion.	L-322; 371; 379; 383; 384	85
Substantial Alterations or additions	3.47	The definition's reference to "at the time of SPW designation" must be clarified. At which dates, temporary, permanent?	L-371	86
Substantial Alterations or additions	3.48	The proposed definition of "substantial alterations or additions" should specifically exclude increases in wastewater flows that are due to the elimination of overflows. These cases should not trigger an antidegradation review.	L-376; 379	87
Alternative Discharge Analysis	3.49	The language that specifies the trigger for alternatives analysis, "The evaluation of … alternatives shall consider alternatives to any and all loadings – both existing and proposed – in excess of actual loadings at the time of SPW designation," is not clear. The language appears to limit consideration of alternatives to those "in excess of actual loadings at the time of SPW designation," a result the Commission presumably does not endorse.	L-371	88
Alternative Discharge Analysis	3.50	The requirement to "satisfactorily prove the technical and/or financial infeasibility of using natural	L-376	88

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Subject	**Question #**	**Question**	**Commenter**	**Page #**
		wastewater treatment technologies" represents an undue burden with no environmental benefit whatsoever in the case of large, urban dischargers, of which there are many in the watershed.		
Mixing Zone Provisions	3.51	Even if non-degradation values are met, mixing zone provisions may impose additional treatment requirements even if no measurable impact is found. This is inappropriate and inconsistent with how the instream EWQ objectives were derived. This provision should be deleted.	L-314; 331; 367	89
Mixing Zone Provisions	3.52	The Commission proposes to limit the use of mixing zones to only those dischargers warranted by "public interest." Mixing zones are accepted regulatory conditions that should be available to any discharger. [Language modifications are suggested by commenter.]	L-333	89
Effluent Trading Provisions	3.53	This language should allow for trading between point sources and non-point sources.	L-371	90
Effluent Trading Provisions	3.54	Considering the difficulties encountered in the Chesapeake Bay trading program, DRBC should design a simple, workable set of trading principles and procedures as supplemental implementation guidance.	L-322	90
Technical Feasibility	3.55	DRBC seems to be promoting land disposal of wastewater, including on-lot disposal (septic systems) over centralized collection and treatment, but the latter approach is, in many cases, infeasible and can lead to groundwater contamination.	L-102; 382; 386	91
Technical Feasibility	3.56	The proposed rule would require water quality based effluent limits that are technically infeasible, in order to meet ambient levels, and would offer no benefit to environmental quality or human health.	L-102	91
IV. Impact on Municipalities, Industrial Facilities, and Administrative Agencies				
Impact on Service Provision	4.1	Will this proposed designation prevent communities from adequately addressing wastewater treatment needs by preventing facilities from expanding to take on wastewater from failing septic systems, cesspools and wildcat sewers?	L-115; 296	92
Impact on Service Provision	4.2	What impact will the proposed rule have on water withdrawals from the Delaware River Basin?	L-185	92
Impact on Service Provision	4.3	Would the proposed classification preclude expansion of the BCWSA's waterworks withdrawal because the BCWSA lacks the authority to implement a non-point pollution control plan?	L-174	93

Table 2: Summary of Issues Raised 2004-2007				
Subject	**Question #**	**Question**	**Commenter**	**Page #**
		Is the provision that "new hookups cannot be made unless the service area is regulated by a non-point source pollution control plan" unreasonable if the applicant lacks the legal authority to implement such a plan? Would the regulation impact the BCSWA by preventing the Authority from providing safe, potable water as required by the County Health Dept., providing reliable fire protection facilities, establishing reliable backup supply to ground water, and would it penalize the Authority, who would have incurred facility building costs but be unable to add customers to the system?		
Impact on Service Provision	4.4	This rule imposes a mandatory connection ban if the service area does not have a Commission-approved enforceable non-point source plan. This is not legally or technically supportable, and violates basic due process rights. Connection bans are a form of injunctive relief that must be demonstrated given specific facts and nowhere are those specific facts demonstrated for this rule. Moreover, the authority for this requirement is not apparent from any enabling legislation or the DRBC Compact itself. Imposing a connection ban is arbitrary and capricious absent a demonstration of DRBC legal authority to adopt a defacto moratorium and some demonstration that the current New Jersey approach fro Delaware tributaries is insufficient to meet the goals of the SPW designation.	L-314; 322; 331; 367	94
Impact on Service Provision	4.5	Will treatment facilities have substantial financial obligations?	MANY	95
Impact on Service Provision	4.6	Under these regulations, would industries with general permits require individual permits for stormwater, resulting in significant costs associated with treating stormwater?	L-182	95
Impact on Service Provision	4.7	Would there be significant, direct costs to dischargers, in application studies, legal fees and new equipment, which would diminish industry's ability to operate and not result in significant water quality improvement?	L-104;182	96
Impact on Service Provision	4.8	Are municipalities and industries that have made significant capital investments to upgrade water quality going to be penalized by not being allowed to increase discharges?	L-181	96
Impact on Service Provision	4.9	Are there programs to subsidize or secure funds for design, procurement and installation of treatment equipment?	L-182; 194	97
Impact on Service Provision	4.10	Are there any tax breaks available to affected users that would offset added costs of compliance with the proposed regulations?	L-182	97

Table 2: Summary of Issues Raised 2004-2007

Subject	Question #	Question	Commenter	Page #
Impact on Service Provision	4.11	Requirements to reject, as infeasible, non-discharge/load-reduction alternatives threaten serious and severe burdens on communities?	L-115	97
Impact on Service Provision	4.12	Will the SPW designation increase costs of living to long-time and new residents of developing areas?	L-182	98
Impact on Service Provision	4.13	For municipal treatment facilities, increases in treatment plant capacity would require a costly review process to justify that "no measurable change" will occur.	L-238; 296; 331; 367	98
Impact on Service Provision	4.14	Complying with BDT requirements, limiting discharge loadings, and prohibition of certain treatment technologies will force municipalities to face considerable economic ramifications, and may prevent acceptance of new connections from un-sewered areas.	L-238; 296; 331; 367; 383; 384; 386	99
Impact on Service Provision	4.15	This rulemaking action will cause significant confusion and unnecessary costs on already overburdened communities.	L-314; 383; 384; 386	99
Burden on Regulatory Process	4.16	Will the states along the Lower Delaware have a burden in reviewing hundreds of additional individual permits annually for stormwater from construction projects if this redesignation is made?	L-181; 322	100
Burden on Regulatory Process	4.17	Wouldn't implementation of the proposed rule reinstitute the same multi-agency permitting that the CWA was meant to eliminate?	L-185; 314	100
Burden on Regulatory Process	4.18	NJ and PA municipalities should be exempt from Section 3.10.3A.2.e under exception E.1.)(a) because of the states' work in administering municipal non-point source programs.	L-104; 192; 238	100
Burden on Regulatory Process	4.19	Would the proposed rule necessitate all tributary wetlands being classified as Exceptional Value wetlands?	L-185	101
V. Additional Needs / Future Actions				
Additional Needs/Future Actions	5.1	All tributaries to the Lower Delaware River (including small ones) should be monitored and have established Boundary Control Points.	L-190	101
Additional Needs/Future Actions	5.2	DRBC should quickly upgrade its Best Management Practices manual.	L-190	101
Additional Needs/Future Actions	5.3	DRBC should use the data it has collected to prioritize Lower Delaware River watersheds and tributaries in need of improvement?	L-190	102
Additional Needs/Future Actions	5.4	There is a need to build watershed partnerships, including memoranda of understanding, with the States and the National Park Service, in implementing the proposed regulation.	L-190	102

Table 2: Summary of Issues Raised 2004-2007				
Subject	**Question #**	**Question**	**Commenter**	**Page #**
Additional Needs/Future Actions	5.5	DRBC should coordinate Best Demonstrable Technology standards with New Jersey's and Pennsylvania's antidegradation programs (for C-1 and High Quality/Exceptional Value waters, respectively) to insure the highest protection.	L-190	102
Additional Needs/Future Actions	5.6	DRBC should, like NJ (for C-1 waters), require a 300-foot buffer for Special Protection Waters.	L-190; 133; 341; 342; 374	103
Additional Needs/Future Actions	5.7	DRBC should adopt nutrient criteria and numeric biocriteria.	L-190	103
Additional Needs/Future Actions	5.8	DRBC should require No Measurable Change in all tributary stream reaches where standards are met, and improvement of all tributary stream reaches where impairment exists	L-341; 374	103
Additional Needs/Future Actions	5.9	DRBC should require that EWQ and NMC are met at the point of discharge, not only at control points.	L-341; 374	104
Additional Needs/Future Actions	5.10	Guidance manual should include procedures for developing EWQ at sites with no data; adding new parameters to existing sites; and statistically valid assessment protocols with recommended water quality methods	L-255	104
Additional Needs/Future Actions	5.11	As stated in Philadelphia Water Department's Delaware River Source Water Protection Plan (2007), PWD requests the enhancement of the SPW regulations to protect water supplies from Cryptosporidiosis by requiring "… wastewater treatment plant dischargers within the Delaware River watershed to perform year-round disinfection…"	L-276	104
Additional Needs/Future Actions	5.12	DRBC should protect water supplies from land use change by including "… forest and canopy protection into existing non-point source pollution regulations."	L-276	105
Additional Needs/Future Actions	5.13	How does a group or an individual participate in the review process of the development of a water quality model for the Lower Delaware?	L-190	105

I. Extent of and Basis for Designation

EXTENT OF AND BASIS FOR DESIGNATION

1.1 DOES OUTSTANDING BASIN WATERS CLASSIFICATION REQUIRE WILD AND SCENIC DESIGNATION?

Not necessarily. The regulations provide that "'Outstanding Basin Waters' are interstate and contiguous intrastate waters that are contained within the established boundaries of national parks; national wild, scenic and recreational rivers systems**;** and/or national wildlife refuges that are classified by the Commission under Subsection 2.g.1 [of DRBC's Water Quality Regulations] as having exceptionally high scenic, recreational, and ecological values that require special protection." WQR §3.10.3A2.a.1.

1.2 SHOULD MAIN STEM RIVER SEGMENTS OUTSIDE OF THE FEDERAL SYSTEM BE REMOVED FROM THIS PROPOSAL?

The Special Protection Waters regulations that the Commission adopted in 1992 and 1994 do not limit SPW classification to river segments within a federal management system. The policy of the Commission is "that there be no measurable change in existing water quality except toward natural conditions in waters considered by the Commission to have exceptionally high scenic, recreational, ecological and/or water supply values." WQR §3.10.3A.2. The regulations authorize the Commission to classify as either Significant Resource Waters or Outstanding Basin Waters any waters it deems to satisfy these criteria. Only the Outstanding Basin Waters classification is limited to waters included in a federal management system.

1.3 SHOULD DRBC CLASSIFY THE ENTIRE LOWER DELAWARE RIVER AS OUTSTANDING BASIN WATERS?

According to DRBC's Water Quality Regulations, Outstanding Basin Waters "are interstate and contiguous intrastate waters that are contained within the established boundaries of national parks; national wild, scenic and recreational river systems; and/or national wildlife refuges that are classified by the Commission under Subsection 2.g.1). hereof as having exceptionally high scenic, recreational, and ecological values that require special protection." WQR §3.10.3A2.a.1). Not all waters in the Lower Delaware River meet these requirements, since some areas are not contained within a federal system. The availability of mixing zones in Significant Resource Waters provides a mechanism to balance resource protection with sustainable development needs. The Commission has considered economic and administrative factors in deciding to classify the exceptional value waters within the federal system as Significant Resource Waters.

1.4 IF, PRIOR TO THE COMMISSION VOTE ON THIS PROPOSAL, A MUNICIPALITY PASSES A RESOLUTION SUPPORTING THE INCLUSION OF ITS RIVER SEGMENT IN THE FEDERAL WILD & SCENIC SYSTEM, SHOULD THAT RIVER SEGMENT AUTOMATICALLY BE CLASSIFIED AS OUTSTANDING BASIN WATERS?

The Commission classifies Special Protection Waters based on a review of reach-specific information and in accordance with its Water Quality Regulations. For reasons cited above, the entire reach of the Lower Delaware is proposed to be classified as Significant Resource Waters. A municipal resolution authorizing inclusion in the federal wild and scenic system would not affect the SRW classification determination.

1.5 SHOULD TOHICKON AND TINICUM CREEKS BE CLASSIFIED AS SPW?

In light of limited resources and a need to prioritize, only the interstate waters described in the proposed rule change are being considered by the Commission for inclusion in the Special Protection Waters program at this time. This does not preclude the Commission from considering classification of the Tohickon and Tinicum Creeks as Special Protection Waters at a future date.

1.6 SHOULD RM 193.8 TO RM 185.55 BE CLASSIFIED AS OBW SINCE IT IS INCLUDED IN THE FEDERAL SYSTEM?

The approved rule classifies the entire Lower Delaware, from RM 209.5 to RM 133.4, as Significant Resource Waters. The Commission believes that the greater flexibility afforded to management of Significant Resource Waters, the administrative advantages of classifying reaches broadly, and economic factors all support classification of this segment as Significant Resource Waters.

1.7 PORTIONS OF THE RIVER BELOW PORTLAND LACK "EXCEPTIONAL" VALUE AND DO NOT MERIT SPECIAL PROTECTION STATUS BECAUSE THERE ARE A VARIETY OF COMMUNITIES, WASTEWATER TREATMENT PLANTS, A POWER GENERATION FACILITY, AND INDUSTRIES ALONG THE RIVER.

Chemical and biological monitoring was conducted upstream of potential water quality stressors (at Portland) and downstream (at Belvidere). Appendix C of the technical report *Lower Delaware Monitoring Program: 2000-2003 Results and Water Quality Management Recommendations* (DRBC August 2004) indicates excellent water quality and shows that no significant difference in water quality exists between these two locations. Industrial power generation and wastewater treatment facilities in the reach below Portland have not significantly reduced ecological value or water quality and should not prevent implementation of the Commission's Special Protection Waters antidegradation policy.

1.8 SUPPORTING COMMISSION STUDIES HAVE FAILED TO EVALUATE WITH PROPER PRECISION SECTIONS OF THE RIVER WHERE WATER QUALITY, WHILE MEETING BASIC STANDARDS, WOULD NOT BE CHARACTERIZED AS SO EXTRAORDINARY AS TO PLACE THE RIVER ON A SPECIAL PROTECTION PEDESTAL.

Please also see responses at 1.38 (relating to Commission authority), 1.10 and 3.1 (relating to the selection of Lower Delaware River sampling locations), and 2.20 (relating to the distinction between an antidegradation program and a water quality standards program).

The criteria established by the Commission in 1992 for classification of Special Protection Waters are not limited to water quality. For Outstanding Basin Waters, they include locations "within the established boundaries of national parks; national wild, scenic and recreational rivers systems; and/or national wildlife refuges" and possession of "scenic, recreational, and ecological values" deemed by the Commission to be exceptional. For Significant Resource Waters, they include "exceptionally high scenic, recreational, ecological and/or water supply uses that require special protection." WQR § 3.10.3 A.2.

The Commission has amply demonstrated that the section of the non-tidal Delaware River known as the Lower Delaware meets the criteria it established in 1992 for designation of waters of the basin as Special Protection Waters. On January 19, 2005, after notice and a public comment period, the Commission by Resolution No. 2005-2 determined the following:

> WHEREAS, data and findings documenting the high quality of scenic, recreational, ecological and water supply attributes of the Lower Delaware River are contained in two studies, a management plan for the Lower Delaware that has received a formal expression of Commission support, a federal designation of the Lower Delaware as part of the national Wild & Scenic Rivers System, and the *Water Resources Plan for the Delaware River Basin* as follows:
>
> - *Water Quality.* Four years of data collected between May 2000 and September 2003, as set forth in the report entitled *Lower Delaware Eligibility Determination for DRBC Declaration of Special Protection Waters* (DRBC, August 2004), demonstrate that water quality in the Lower Delaware River is better than the water quality criteria. Numeric values for existing water quality in the Lower Delaware are presently being determined, following the recent conclusion of a fifth year of monitoring.
>
> - *Scenic, Recreational and Ecological Values.* The report entitled *Lower Delaware National Wild & Scenic River Study Report* (National Park Service, Northeast Region, 1999) documents that the Lower Delaware River includes islands, wetlands, and diverse ecosystems that support rare and endangered plant and animal species and constitute scenic and recreational amenities.

- *Lower Delaware River Management Plan.* The *Lower Delaware River Management Plan* (August 1997) (LDRMP) contains goals relating to water quality, natural resources, historic resources, recreation, economic development and open space preservation for the Lower Delaware River. The LDRMP was developed by the Lower Delaware River Wild and Scenic River Study Task Force and Local Government Committee, with assistance from the National Park Service, Northeast Field Area. The Commission contributed staff and resources to develop the LDRMP, and upon the plan's completion, the Commission approved Resolution No. 98-2 supporting the LDRMP. Goal 1 of the LDRMP calls for maintaining, and where practical, improving existing water quality in the main stem of the Lower Delaware River and its tributaries.

  The LDRMP sets forth as policies for advancing Goal 1: achieving the highest practical state and federal water quality designation for the river and its tributaries; managing point and non-point discharges to minimize adverse impacts on water quality; encouraging the use of Best Management Practices in both agricultural and non-agricultural areas within the river corridor; and discouraging inappropriate development in floodplains, wetlands, steep slopes and buffer strips along the Lower Delaware River and its tributaries.

- *Wild and Scenic Rivers System Designation by Congress.* The President of the United States signed Public Law 106-418 on November 1, 2000, designating portions of the Lower Delaware River as part of the National Wild and Scenic Rivers System. The system was established by Congress in 1968 to preserve the character of rivers with "outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values" and to ensure that designated rivers remain free-flowing (P.L. 106-418, 106th Congress).

- *Basin Plan Goals and Objectives.* The *Water Resources Plan for the Delaware River Basin* (DRBC Watershed Advisory Committee, 2004) ("Basin Plan") contains goals and objectives to ensure adequate supplies of suitable quality water for aquatic ecosystems and wildlife, public water supply, self-supplied domestic water supply, commercial, industrial, agricultural and power uses; and flow-dependent recreation. Among other things, the Basin Plan directs, "[w]here water quality is better than standards for the protection of aquatic life and wildlife, implement anti-degradation regulations, policies and/or other mechanisms to maintain or improve existing water quality"; and

WHEREAS, on the basis of the foregoing studies, findings, plans, and federal designation, the Commission finds that the Lower Delaware River is characterized by exceptionally high scenic, recreational, and ecological values and water supply uses that require special protection; and

WHEREAS, the Lower Delaware River between River Miles 209.5 and 133.4 has exceptionally high scenic, recreational, ecological, and/or water supply

> uses and thus may be classified as Significant Resource Waters in accordance with Section 3.10.3.A.2 of the Regulations; . . . .

In Resolution No. 2005-2, the Commission went on to find that the section of the Delaware River from River Mile 133.4 to River Mile 209.5, known as the "Lower Delaware River", "is characterized by exceptionally high scenic, recreational, ecological and/or water supply values/uses within the meaning of Section 3.10.3.A of the *Water Quality Regulations* and requires special protection in accordance with that section." The Commission by that resolution temporarily designated the Lower Delaware as Significant Resource Waters (SRW) pending the determination of numeric values for existing water quality and further consideration of the (SRW) classification.

After adoption of Resolution No. 2005-2 by the Commission in January 2005, data from a fifth year of water quality monitoring for the Lower Delaware were analyzed. The data collected over five consecutive years show water quality in this section of the main stem to be better than the water quality standards 94% of the time. Consistent with this finding, the Commission's SPW regulations dating from 1992 establish that the water quality goal for waters designated by the Commission as SPW should be "no measurable change . . . except towards natural conditions." WQR § 3.10.3 A.2. "Natural Condition" is defined as the ecological state of a water body that represents conditions without human influence." WQR § 3.10.3 A.2.a.6).

1.9 DRBC'S THRESHOLD FOR SPECIAL PROTECTION APPEARS TO BE MUCH LOWER THAN THAT OF PENNSYLVANIA'S (PA) ANTIDEGRADATION PROGRAM. THIS RULEMAKING ACTION CONFLICTS WITH THE EXTENSIVE HIGH QUALITY WATERS APPROACH IMPLEMENTED BY THE STATE OF NEW JERSEY UNDER CATEGORY 1 USE PROTECTION AND THE HIGHLANDS PROTECTION ACT; AND IS AT ODDS WITH PENNSYLVANIA'S APPROACH TO PROTECTION OF HIGH QUALITY WATERS.

THIS RULEMAKING ACTION IGNORES STATE OF NEW JERSEY ACTIONS REGARDING "WILD AND SCENIC RIVER" DESIGNATIONS AND NEW JERSEY'S PROGRAM FOR PROTECTING WATER QUALITY IN THOSE WATERS.

Please also see 1.33, 1.35 and 3.5.

The principal differences between the SPW program and the antidegradation programs of the states are that (1) the purpose of the SPW program is to protect high water quality primarily in the non-tidal Delaware River, whereas the states' programs are applied within the Delaware Basin only to tributaries and streams or to portions of such tributaries and streams; and (2) only the SPW program establishes numeric values for water quality based upon a multi-year monitoring program, and seeks to maintain those values wherever they are better than the water quality standards require. Other differences between the SPW program and independent state antidegradation programs flow from these two.

The commenter does not specify what he or she means by "threshold." Readers are referred to Comments 1.1 through 1.8 above for a discussion of the criteria for SPW designation. The following paragraphs address more fully the differences between the state anti-degradation programs and the SPW program.

Threshold for Application of Rules to Discharge Project;
Goal of Protecting High Water Quality

All wastewater discharge projects, regardless of design flow, are subject to the states' antidegradation rules, which are based on the Clean Water Act. DRBC's SPW program, which is based on Delaware River Basin Compact authority, applies only to discharge projects with a design flow of 10,000 gpd or more that are located in the drainage area to waters designated as SPW.

The SPW regulations provide that "it is the policy of the Commission that there be no measurable change in existing water quality except towards natural conditions in waters considered by the Commission to have exceptionally high scenic, recreational, ecological and/or high water supply values." When the Commission determines that Delaware River segments have exceptionally high values that merit protection, the Commission may designate these Delaware River segments as SPW and thereby apply regulations intended to preserve their high water quality. For example, the "no measurable change" requirements for the Lower Delaware River are based on actual water quality measurements for a range of parameters taken over a five-year period.

The states use a variety of methods to designate their waters as EV, HQ and C1. For example, Pennsylvania's Department of Environmental Protection (PADEP) uses water quality and biological indicators in its decision making. When Pennsylvania makes a High Quality (HQ) or Exceptional Value (EV) determination, the requirement that water quality be better than criteria more than 99 percent of the time ("the 99 percent criterion") is applied to twelve parameters – dissolved oxygen, iron, dissolved copper, temperature, dissolved arsenic, dissolved lead, aluminum, dissolved nickel, dissolved cadmium, pH, ammonia nitrogen, and dissolved zinc – as well as to certain biological evaluations. Total phosphorus and bacteria are not associated with the 99 percent requirement. In evaluating water quality in the Lower Delaware, DRBC examined three of the parameters relied upon by Pennsylvania in its HQ and EV waters evaluations (dissolved oxygen, pH, and ammonia nitrogen) and considered a number of additional parameters that Pennsylvania does not consider – chloride, chlorophyll-a, dissolved oxygen percent saturation, E. Coli, Enterococcus, Fecal Coliform, nitrate, orthophosphate, specific conductance, total dissolved solids, total Kjeldahl nitrogen, total phosphorus, total suspended solids, turbidity, alkalinity and hardness.

The Commission used five years of data to establish existing water quality (EWQ) in the Lower Delaware for the above-listed parameters. The data show that for the parameters used by both DRBC and Pennsylvania, water quality standards were achieved over 99 percent of the time. Biological scores in the Lower Delaware were as good as or better than those in the Upper Delaware, which is already included in the SPW program.

In approximately 95 percent of samples, Delaware River chemical water quality was better than the most stringent of DRBC, state and federal criteria for all parameters for which criteria have been established. State water quality assessment scientists closely examined the data. The DRBC's Water Quality Advisory Committee, which includes representatives from Delaware, New Jersey, New York, Pennsylvania and a number of other private and public entities, agreed that the water quality and biological data support the proposed designation of the Lower Delaware as Special Protection Waters.

Effect on Existing Wastewater Treatment Facilities

DRBC's SPW program is similar to the New Jersey, New York and Pennsylvania high quality waters programs in that upon designation as HV or EQ (by PA) or C1 (by NJ) or SPW (by DRBC) each of these regulatory regimes allows existing wastewater treatment facilities to continue to discharge up to their permitted loads[1] and design flows included in a NPDES permit or docket effective at the time the protective classification was made. Unlike the states' programs, however, the SPW program permanently exempts from the most protective treatment requirements only the actual load being discharged at the time of SPW designation. In contrast, under the New Jersey, New York and Pennsylvania programs, when the state's protective classification is assigned, the entire permitted load is "grandfathered" permanently, whether or not the facility is discharging at its permitted capacity.

When "Substantial Alterations or Additions" as defined by the SPW rule are proposed, although the actual load discharged at the time of SPW designation remains exempt from new treatment requirements, the proposed project cannot be approved until (1) all non-discharge/load reduction alternatives for the incremental load have been fully evaluated and rejected because of technical or financial infeasibility (OBW and SRW discharges); (2) the applicant has demonstrated the technical and/or financial infeasibility of using natural wastewater treatment technologies for all or a portion of the incremental load (OBW, SRW and tributary discharges); (3) the Commission has determined that the project is demonstrably in the public interest (SRW discharges); (4) the minimum level of treatment to be provided for the incremental discharge is Best Demonstrable Technology as defined by the rule (OBW and SRW discharges); and (5) the project will cause no measurable change to EWQ as defined by the rule at established water quality control points (OBW, SRW and tributary discharges).

The amended regulations define "Substantial Alterations or Additions" as

> those additions and alterations resulting in: (a) a complete upgrade or modernization of an existing wastewater treatment plant, including substantial replacement or rehabilitation of the existing wastewater treatment process or major physical structures such as headworks, settling tanks, and biological/chemical treatment and filtration tanks, whether conducted as a single phase or a multi-phased project or related

[1] Loading refers to the amount of a substance or material, expressed as a weight per unit time (pounds per day, for example), which is discharged from a facility.

> projects; or (b) a new load or increased flow or loading from an existing facility that was not included in a NPDES permit or docket effective on the date of SPW designation. Among other projects, modifications made solely to address wet weather flows; and alterations that are limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal are not deemed to be "Substantial Alterations or Additions".

Less burdensome requirements apply to all existing facilities within the SPW drainage area at their next NPDES permit renewal after SPW designation. These include requirements for standby power facilities, remote alarms for plants not monitored 24 hours every day, and the requirement that an emergency management plan be put in place.

The Commission has provided this flexible approach to existing facilities in recognition of the financial investment made previously by the project sponsors in a given plant's design and construction. Only when a new investment is contemplated to meet growing demand or because the existing plant has reached the end of its useful life must the SPW treatment requirements be factored into the project.

Non-Discharge Alternatives and Minimum Treatment Technologies for New Point Sources

Both DRBC and Pennsylvania require the sponsors of new or expanding discharges to evaluate non-discharge alternatives and use them wherever technically and economically feasible. New Jersey also requires project sponsors to evaluate and use "no-discharge" alternatives in C1 waters. No-discharge alternatives are considered in New Jersey's Water Quality Management Plan Amendment process.

DRBC's program is similar to New York's and Pennsylvania's in that all three authorities generally require the highest level of treatment for all new point sources. However, unlike the New Jersey, New York, and Pennsylvania programs, the SPW program requires new direct dischargers to SPW to apply a minimum of Best Demonstrable Technology (BDT) (as defined by the SPW regulations) and other treatment sufficient to demonstrate no measurable change either to existing water quality values as defined by the rule, or to water quality standards, whichever are more stringent. Dischargers to a tributary to SPW are not subject to the BDT requirement but with respect to the proposed incremental load, they must evaluate whether natural treatment alternatives are technically and financially feasible. Where natural treatment is technically and financially infeasible, they must provide treatment sufficient to ensure no measurable change to existing water quality as defined by the rule for a specific set of parameters. New Jersey requires municipal dischargers to achieve secondary treatment at a minimum and requires additional treatment where more stringent limits are necessary to meet the C1 water quality requirements.

No Measurable Change to Existing Water Quality (EWQ)

DRBC, Pennsylvania and New Jersey all apply a *No Measurable Change* standard to "new discharges and to existing discharges that undergo expansion. However, each applies the standard differently. In the state programs, the *No Measurable Change* standard is applied at the point of discharge for direct discharges to EV and HQ waters in (PA) and to C1 waters (in NJ). Importantly, however, the states apply the *No Measurable Change* requirement only to the portion of a load that exceeds the *permitted* load included in the NPDES permit in effect at the time of stream classification, whether or not the facility has ever discharged at its permitted capacity. As discussed above, the SPW *No Measurable Change* requirements are applied to the increased load and flow above the *actual* load and flow discharged at the time of SPW designation. The SPW program does not "grandfather" previously approved but unused capacity once a facility proposes "Substantial Alterations or Additions" as defined by the rule.

For purposes of the SPW regulations, existing water quality for the Lower Delaware River (EWQ) is defined in Table 2 of the proposed amended regulations at a set of established Boundary and Interstate Water Quality Control Points (BCPs and ICPs, respectively). BCPs are monitoring points located in tributaries, upstream of the confluence of such tributaries with the main stem Delaware River. ICPs are monitoring points located within the main stem.

Tributary Discharges. Where a proximate ICP or BCP has been established in Table 2 of the SPW regulations, DRBC uses the corresponding EWQ values in applying the *No Measurable Change* requirements to a new load or incremental load. In the absence of a BCP, DRBC applies the *No Measurable Change* requirements at the confluence of the tributary with the main stem, unless a mixing zone is allowed into main stem Significant Resource Waters. In cases where no BCP is defined, DRBC may elect to use EWQ for the nearest upstream or downstream ICP or it may develop (or require the project sponsor to develop) EWQ for the specific tributary using available data and/or a water quality model based upon available data.

Discharges Directly to OBW and SRW. For new discharges or "substantial alterations or additions" to existing discharges directly to OBW, the no measurable change requirement is applied at the point of discharge. In contrast, for new discharges or substantial alterations or additions to existing discharges directly to SRW, a mixing zone may be allowed if the public interest warrants it. In either case, DRBC may define or may require the project sponsor to define EWQ at the discharge location. EWQ values will be determined through the use of existing water quality data and/or a water quality model based upon available data.

Pennsylvania uses upstream water quality as the benchmark against which *No Measurable Change* is assessed for tributary discharges. In the absence of upstream water quality data, Pennsylvania may use default values contained in a PADEP guidance document. New Jersey requires project sponsors to determine EWQ in the receiving stream as part of the NPDES permit application process. Effluent limits are then

developed by New Jersey to ensure that existing water quality will be maintained notwithstanding the new or expanded discharge.

New and Expanding Wastewater Treatment Facilities

For purposes of the SPW program, a "new" wastewater treatment facility consists of a wastewater facility discharge constructed after SPW designation. A new wastewater treatment facility in the drainage area to SPW is subject to review under Section 3.8 of the *Delaware River Basin Compact* and application of the SPW regulations when the design capacity of the facility is equal to or exceeds an average rate of 10,000 gallons per day. The full panoply of SPW regulations applies to such facilities. By way of comparison, Pennsylvania considers a "new discharge" to a water body to be "a wasteload not previously present on that waterbody that requires the construction/placement and permitting of a new treatment facility." Pennsylvania's definition includes no discharge flow threshold.

For purposes of the SPW program, an "expanding wastewater treatment project" is a project involving either (a) alterations or additions to an existing wastewater treatment facility that result in a reviewable project in accordance with the Commission's *Rules of Practice and Procedure***;** or (b) a new load or increased flow or loading from an existing facility that was not included in a NPDES permit or docket effective on the date of SPW designation

Only "Substantial Alterations or Additions" to existing facilities trigger the most protective SPW requirements, which provide that no such project may be approved until (1) all non-discharge load reduction alternatives have been fully evaluated and rejected because of technical or financial infeasibility (OBW and SRW discharges); (2) the applicant has demonstrated the technical and/or financial infeasibility of using natural wastewater treatment technologies for all or a portion of the incremental load (OBW, SRW and tributary discharges); (3) the Commission has determined that the project is demonstrably in the public interest as defined by the rule (SRW discharges); (4) the minimum level of treatment to be provided for such projects is Best Demonstrable Technology as defined by the rule (direct discharges to OBW and SRW); and (5) the project will cause no measurable change to EWQ as defined by the rule at established water quality control points (OBW, SRW and tributary discharges).

Pennsylvania's rules distinguish between an "additional discharge" and an "increased discharge." The former is defined as "flow and/or loading added to an existing waste stream that would not require new construction to accommodate the increased waste flow." The latter is defined as "flow and/or loading added to an existing waste stream that would require new construction to accommodate the increased waste flow." New Jersey's rules define a facility as "expanding" whenever the facility requests an increase in flow[2] or loading beyond that specified in its existing NPDES permit. As noted above, Pennsylvania and New Jersey "grandfather" all permitted loads when a water body is

[2] Flow refers to the volume per unit time (gallons per day, for example) of effluent that is discharged from a facility.

assigned high value status, exempting such loads from application of the state's high value waters program requirements.

Under the SPW program the more protective treatment requirements apply to "incremental loads" whenever an existing facility undertakes "Substantial Alterations or Additions. To clarify the meaning of "incremental load" the Commission added definitions for the terms "load" and "incremental load" at new sections 3.10.3A.2a.17) and 18). The new definitions are as follows:

> "Load" and "loading" are used interchangeably in these regulations and refer to the amount of a substance or material, expressed as a weight per unit time (pounds per day, for example), that is discharged from a facility.
>
> "Incremental load" and "incremental loading" are used interchangeably in these regulations and refer to the load that is greater than the actual load discharged by a facility at the time of SPW designation.

Generally, the applicant will use twelve months of operation immediately preceding SPW designation as representative of actual wastewater treatment plant operations and loads at the time of designation. However, for existing discharges within the drainage area to the Lower Delaware River, the Commission will consider the condition most representative of operations during the 2000-2004 timeframe as the baseline condition. An average discharge/load may in some instances be deemed most representative.

Non-Point Source Controls

DRBC's SPW program requires cost-effective, reasonable Best Management Practices to control non-point sources of pollution. New Jersey and Pennsylvania also have regulations to control non-point sources. However, the states' non-point source regulations are associated with their land use and development programs, whereas DRBC's non-point source requirements are linked to its regulation of water withdrawal and discharge projects. DRBC defers to state-approved non-point source plans that satisfy the DRBC requirements.

Allowing Localized Degradation

The SPW rules provide that localized degradation of water quality may be allowed for initial dilution within Significant Resource Waters if the Commission finds that the public interest warrants these changes. However, where the *No Measurable Change* requirement is applicable, it must still be satisfied at the edge of an approved mixing zone. Notably, the "public interest" analysis is applied to any portion of a load that was not actually discharged at the time of SPW designation in accordance with a NPDES permit or docket effective at the time of SPW designation. No localized degradation is allowed for discharges to Outstanding Basin Waters, where "complete mixing of effluent with the receiving stream" is required to be "for all practical intents and purposes, instantaneous." WQR § 3.10.3 A.2.b.1).

Pennsylvania's high quality waters program allows for degradation if a social and economic justification ("SEJ") shows that the degradation is warranted. Similarly, New York's program allows adverse impacts to water quality when necessary to accommodate significant economic or social development, as long as the existing uses of the stream are protected. New York uses its State Environmental Quality Review (SEQR) process to assure that potential adverse impacts are adequately mitigated and existing uses are protected. New Jersey, Pennsylvania and New York all exempt from restrictions on localized degradation those point source loads that were authorized by NPDES permits in effect at the time of stream classification.

1.10 VIRTUALLY ALL OF THE MONITORING POINTS SELECTED WERE LOCATED UPSTREAM OF MAJOR DISCHARGERS, AND THE DATA FROM THESE "GOOD" SITES SUPPORTED SPW DESIGNATION. THESE DATA WERE NOT REPRESENTATIVE OF ACTUAL CONDITIONS IN THE RIVER.

Obtaining sufficient data to define existing water quality in the 75-mile Lower Delaware section of the main stem was the primary objective in selecting a monitoring strategy. The control point approach was chosen as best capable of representing water quality conditions. Accessibility and sampling safety were the key constraints. Thus, sampling locations were selected at bridge crossings that provide reasonable spacing between sampling points. None of the points are located in the immediate downstream area of discharges, where samples would represent the quality of mixing zones rather than the overall quality of the reach in question. That sampling locations are not directly downstream of discharge pipes does not mean wastewater is not a component of the samples. Streamflows at each point – and the samples collected and analyzed to measure existing water quality – include a blend of assimilated wastewater, natural water, reservoir water, and storm water. The effect of wastewater discharges upstream of sampling locations is reflected in the water quality of the samples. Chemical and biological monitoring was conducted in downstream areas of the Lower Delaware as well as in upstream areas. Monitoring points both upstream and downstream of every major discharge and tributary were used. Appendix C of the technical report *Lower Delaware Monitoring Program: 2000-2003 Results and Water Quality Management Recommendations* (DRBC August 2004) indicate excellent water quality at all locations.

By way of example, in the vicinity of Milford Borough and Alexandria Township, Hunterdon County, NJ, there are control points established both upstream (at Milford Bridge) and downstream (at Bulls Island). The Milford Interstate Control Point (ICP) receives all waters upstream of Milford, and the Bulls Island ICP receives these plus all new tributary and direct inputs to the reach that is immediately downstream of Milford. The reach between Milford and Bulls Island receives treated wastewater and collects drainage from numerous tributaries. Similar examples can be provided for many other reaches of the river.

1.11 GIVEN THE RANGE OF USES AND ACTIVITIES ALONG THE RIVER'S MAINSTEM, THE COMMISSION CANNOT JUSTIFY CLASSIFYING ALL OF THE MAINSTEM IN AN UNBROKEN CHAIN FROM THE WATER GAP TO TRENTON AS SRW.

The SRW classification is intended to ensure that the quality of waters with exceptionally high scenic, recreational, or ecological values or water supply uses is maintained. The program implements DRBC's antidegradation policies and water quality regulations in river segments where water quality is generally better than the criteria for protection of designated uses. Since water quality is generally better than criteria for the entire 75-mile reach of the Lower Delaware, the Commission has determined that classification of the entire reach as SRW is warranted.

1.12 THE DESIGNATIONS SHOULD BE REVISED TO INCLUDE ONLY THOSE AREAS THAT ARE WITHIN THE SCENIC RIVER SYSTEM OR HAVE TRULY EXCEPTIONAL WATER QUALITY.

As noted at 1.8 above, the criteria established by the Commission in 1992 for classification of Special Protection Waters are not limited to water quality. Nevertheless, chemical and biological monitoring conducted in upstream and downstream areas of the Lower Delaware over a period of five consecutive years indicate excellent water quality at all locations. *See Lower Delaware Monitoring Program: 2000-2003 Results and Water Quality Management Recommendations* (DRBC August 2004), App. C.

1.13 THE COMMISSION'S PROPOSED PERMANENT CLASSIFICATION OF THE ENTIRE LOWER DELAWARE REACH AS SRW IS INCONSISTENT WITH THE RECOGNIZED IMPAIRMENT OF PORTIONS OF THE LOWER DELAWARE. WHY SHOULD KNOWN IMPAIRED SECTIONS OF THE RIVER MERIT SPECIAL ANTIDEGRADATION PROTECTION?

Antidegradation and criteria-based programs need not be mutually exclusive. Although impairments exist in the Lower Delaware for specific contaminants, the overall water quality is excellent throughout as evidenced by chemical and biological data collected over a five-year period. Special protection status will help to prevent further degradation for a set of key parameters. Where impairment for specific contaminants has occurred, restoration of water quality can be pursued in accordance with criteria-based programs, including the Commission's assimilative capacity regulations and the TMDL program established by the Clean Water Act.

1.14 THE SPW REGULATION'S NMC POLICY FOR SRW IS TOO STRINGENT A STANDARD FOR THE LOWER DELAWARE, IN PARTICULAR WHEN COMPARED TO THE FEDERAL ANTIDEGRADATION POLICY. THE REGULATION EFFECTIVELY AND INAPPROPRIATELY PLACES THE LOWER DELAWARE AT A LEVEL OF PROTECTION AKIN TO THE FEDERAL TIER 3

ANTIDEGRADATION CLASSIFICATION, WHERE TIER 2 SHOULD BE THE MAXIMUM LEVEL OF PROTECTION APPLIED.

The SPW classifications are not identical to the federal antidegradation tiers. For comparison purposes, the protection afforded by SRW is closer to Tier 2 than Tier 3.

PROGRAM RATIONALE

1.15 IS THIS PROPOSAL BASED UPON A VIEW THAT THE RIVER SHOULD BE CHARACTERIZED AS EITHER IMPAIRED, AND REQUIRING TMDLS, OR AS SPECIAL PROTECTION WATERS THAT CANNOT BE DEGRADED?

The total maximum daily load (TMDL) program under Section 303(d) of the Clean Water Act, 33 U.S.C. §1313(d), addresses waters for which effluent limitations required by the Act are not stringent enough to implement a water quality standard applicable to the designated use by the states for such waters. A TMDL is established on a pollutant-specific basis at a level necessary to implement the applicable water quality standard. As explained at length at 1.8 above, the criteria established by the Commission in 1992 for classification of Special Protection Waters are not limited to water quality. The criteria for Significant Resource Waters classification, the classification proposed for the Lower Delaware, include "exceptionally high scenic, recreational, ecological and/or water supply uses that require special protection." WQR § 3.10.3 A.2. In practice, the Commission has designated as Special Protection Waters only interstate waters that in general have water quality better than the water quality standards require, and as set forth above, the proposed classification of the Lower Delaware is no exception.

Commission staff is not of the view that river segments characterized by a water quality impairment of any kind do not merit protection. In the case of high value waters, there is no reason that an antidegradation approach such as the SPW program and a restoration tool such as a TMDL cannot be used in tandem where, for example, water quality is better than the standards require for most conventional pollutants but shows impairment for one or another such pollutant or for a persistent bioaccumulative toxic chemical such as PCBs. The limited impairment is no reason to abandon protection of waters that are deemed to have exceptional scenic, recreational, ecological and water supply uses, as well as high water quality, as is the case with the Lower Delaware, where it is possible that both regulatory tools may be effectively applied.

1.16 THIS PROPOSAL REPRESENTS A ONE-SIZE-FITS-ALL APPROACH TO ADDRESSING SPECIFIC PARAMETER CONCERNS FOR SPECIFIC DISCHARGERS.

The proposal does not represent a one-size-fits-all approach, since there are multiple points of flexibility built into the regulations to allow for adjustments on a case-by-case basis. This proposal is not principally a water quality restoration effort, such as implementing a TMDL for a specific pollutant of concern. The proposal is intended to

aid in implementing DRBC's antidegradation policies to protect existing water quality in an area where water quality is generally better than required by the regulatory standards established to protect existing or designated uses.

1.17 WE FAIL TO SEE THE LOGIC (TECHNICAL, LEGAL OR OTHERWISE) FOR DRBC TO ADOPT A PROVISION THAT FREEZES POINT SOURCE ALLOWABLE EFFLUENT LOADINGS AT PRE-2005 LEVELS. CURRENT WATER QUALITY PROGRAMS PROTECT USES SUFFICIENTLY, AND CAPS SHOULD NOT BE PLACED WHERE NO IMPACTS ARE DEMONSTRATED.

The SPW program is an anti-degradation program, and like anti-degradation programs generally, it is more protective than water quality programs that are designed to protect existing or designated uses. Established in 1992, the program provides that "it is the policy of the Commission that there be no measurable change in existing water quality except towards natural conditions in waters considered by the Commission to have exceptionally high scenic, recreational, ecological and/or high water supply values." The program has been in effect for the sections of the main stem Delaware River known as the Upper and Middle Delaware since their classification as SPW in 1992 (non-point source controls were added in 1994) and is now proposed for the section known as the Lower Delaware. All of these reaches, including the Lower Delaware, are characterized by water quality that overall is substantially better than standards require for a set of key parameters.

The regulatory definition of existing water quality that has been proposed for the Lower Delaware reflects pollutant loads that were discharged into these waters over a period of five years of sampling, from 2000 to 2004. Contrary to the commenter's assertion, additional loads are allowed, but only upon a demonstration that they will not result in measurable change to existing water quality for a set of specified parameters listed in the regulation. If a discharger elects to hold its load to the actual load at the time EWQ was defined, the Commission would agree that no measurable change to existing water quality would result and no further analyses would be required. Additional analysis is required where an increase in the load is proposed.

1.18 SHOULDN'T THE GOAL BE TO MEET ESTABLISHED WATER QUALITY CRITERIA, AND NOT TO IMPOSE MORE STRINGENT STANDARDS THAT PROVIDE LITTLE ADDITIONAL BENEFIT?

The purpose of the proposed classification is to implement DRBC's antidegradation policies and water quality regulations in waters with exceptional value. The regulations are based on the Commission's policy determination that protecting waters that are deemed to have "exceptionally high scenic, recreational, ecological and/or water supply values" is in the in the public interest. Antidegradation programs such as the SPW program are more protective than water quality programs intended to protect existing designated uses. The SPW program is designed to preserve or improve existing water

quality in the Delaware River, which in general is better than that necessary to protect designated uses.

1.19 RECREATION AND WATER SUPPLY USES OCCUR THROUGH MOST OF THE DELAWARE BASIN, AND THE MERE OBSERVATION OF THOSE USES DOES NOT MEAN, AND CANNOT BE USED TO JUSTIFY, AN "EXCEPTIONAL HIGH" VALUE FINDING.

The Commission's evaluation of the waters to be classified as Special Protection Waters is not based solely on the existence of recreational and water supply uses, but rather on an evaluation of the nature, extent and public importance of these and other uses. Water supply is a critical use of the Lower Delaware, which provides water to communities along this section of the river as well as downstream and inland to the east and west. Approximately 1.3 million people live along the Lower Delaware and a total of 2.9 million people are served by withdrawals from this section of the river. Thus, the Lower Delaware is a critical water supply resource. Maintaining high water quality in a supply source is in the public interest, as it reduces treatment and delivery costs.

A careful evaluation of recreational uses of the non-tidal Lower Delaware was performed by the National Park Service (NPS) at the time of the application to Congress for inclusion of this section of the river in the federal Wild & Scenic Rivers system. The NPS determined that most of the Lower Delaware was eligible for a Recreational River designation within the Wild and Scenic system. Additional evidence of recreational use was provided by the DRBC when it evaluated the eligibility of the Lower Delaware for classification as Special Protection Waters.

1.20 IS THERE TOO MUCH FLEXIBILITY IN ALLOWING DEGRADATION IN SRW AND OBW?

The Special Protection Waters regulations, when properly implemented, provide strong protection of high quality waters through a policy of no measurable change at boundary and interstate water quality control points. Various additional regulatory requirements applicable to some discharges, including minimum treatment standards, alternatives analysis and non-point source plans, also contribute to achieving the no measurable change objective. The Commission has proposed a degree of flexibility in implementing the program that it deems sufficient to properly manage economic growth and development in the area while minimizing degradation of water quality.

1.21 WHY IMPOSE MORE STRINGENT REQUIREMENTS ACROSS THE BOARD WHEN SECONDARY TREATMENT HAS LED TO HIGH WATER QUALITY IN THE LOWER DELAWARE?

High water quality in the Lower Delaware is due in part to water quality protection and control plans implemented over the past 40 years, including both secondary treatment of wastewater in the Upper, Middle and Lower Delaware, and the promulgation of Special Protection Waters regulations in 1992 (for point sources) and 1994 (for non-point

sources) in the Upper and Middle reaches. Although these programs have been successful at controlling pollutant discharges, additional steps are needed to maintain high water quality in the Lower Delaware while accommodating growth and development. Extending SPW classification to the Lower Delaware provides such additional protection.

In order to accommodate additional growth and economic development in areas of high water quality, it is necessary to address the potential for increased point and non-point sources of pollution that may degrade that high water quality. Thus, Special Protection Waters requirements for both point and non-point sources apply to new and expanding facilities.

The requirements do provide some flexibility. Importantly, discharges to tributaries may, to the extent consistent with state law, use the entire length of the tributary downstream of the discharge as a mixing zone as long as they do not cause degradation at the Boundary Control Point. The Commission may allow localized degradation of water quality for initial dilution purposes in waters designated SPW, provided that after consultation with the state NPDES permitting agency the Commission finds that the public interest warrants these changes, and all other conditions of the section are satisfied. The latter include use of the "highest possible treatment levels . . . to limit the size and extent of the mixing zone"; and "consideration of site-specific conditions, discharge structure design, and the cost and feasibility of treatment technologies." Thus, if a tributary discharger demonstrates that requiring it to satisfy the no measurable change requirement at a control point located on the tributary is not in the public interest, the discharger may be allowed a mixing zone in the main stem in accordance with the regulations.

1.22 IS UPGRADING THE RIVER TO SPW STATUS NECESSARY SINCE EXISTING REGULATIONS (INCLUDING TMDL PROVISIONS) ALREADY PROTECT STREAM USES?

The TMDL provisions of the Clean Water Act and the DRBC's assimilative capacity regulations both are designed to restore waters that are degraded below water quality standards. TMDLs are useful to protect or restore water quality in impaired waters, but they are not generally applied until after the impairment has occurred. Special Protection Waters designation is necessary to ensure that existing water quality is maintained. The purpose of the proposed classification is to implement DRBC's antidegradation policies and water quality regulations in an area where water quality is generally better than the criteria for protection of designated uses. Antidegradation policies go beyond the protection of designated uses to provide additional protection for waters that have exceptionally high scenic, recreational and ecological values.

1.23 DOES DRBC NEED TO DESIGNATE EVERY UPSTREAM TRIBUTARY AS SPW TO PROTECT DOWNSTREAM AREAS, SINCE PROPERLY TREATED DISCHARGES MAY NOT RESULT IN MEASURABLE CHANGE IN DOWNSTREAM DESIGNATED AREAS?

The proposed classification of the Lower Delaware as Special Protection Waters does not include classification of any tributaries as Special Protection Waters but it will nevertheless regulate activities throughout the drainage area of Special Protection Waters for their potential to degrade water quality in the Lower Delaware. Thus, the sponsors of new and expanding discharges to tributaries of SPW are required by the SPW regulations to examine and implement natural treatment alternatives where technically and financially feasible. Where natural treatment is infeasible, in addition to complying with state discharge and in-stream requirements, the project sponsor must demonstrate that the discharge will not result in a measurable change in water quality at the applicable SPW control point. This point will be at the confluence of the tributary with the main stem Delaware River unless in accordance with Section 3.10.3A.2.b.2), the Commission approves a mixing zone within the main stem SRW. Where a tributary discharge does not trigger the SPW requirement for no measurable change to existing water quality, the requirements for standby power, remote alarms, emergency management plans and non-point source pollution control are nevertheless applicable. The DRBC will review all projects subject to review in accordance with Section 3.8 of the Compact to determine whether they conflict with the Special Protection Waters regulations or other parts of the DRBC's Comprehensive Plan.

1.24 SHOULDN'T DRBC FOCUS ON ADDRESSING CONCERNS WITH SPECIFIC DISCHARGERS AND IMPLEMENT A COOPERATIVE NON-POINT STRATEGY FOR EACH RATHER THAN MAKE THE DESIGNATION?

DRBC believes that it is appropriate to promulgate a rule of general applicability as a basis for requiring non-point source control plans. The rule is flexible enough to allow for variations in plans based on site-specific circumstances. DRBC supports and encourages collaborative efforts to address non-point sources of pollution and has provided an exception to Special Protection Waters non-point source requirements for projects located within DRBC-approved watershed non-point source management plans. Such plans will work in conjunction with the proposed designation but cannot replace it. Multiple tools are needed to protect the high water quality of the Lower Delaware River.

LEGAL/REGULATORY ISSUES

1.25 THIS RULEMAKING ACTION IS DUPLICATIVE.

The differences between the Commission's SPW program and the high value waters programs of the Basin states are addressed at length at 1.9 above.

In brief, there are two principal differences between the SPW program and the antidegradation programs of the states. First, the SPW program will protect high water quality in the main stem of the non-tidal Delaware River, whereas the states' programs apply within the Delaware Basin only to tributaries and streams (or portions of tributaries and streams). Second, only the SPW program establishes numeric values for water quality based upon a multi-year monitoring program, and seeks to maintain those values

wherever they are better than the water quality standards require. Other differences in the program flow from these two.

1.26 THE COMMENT PERIOD IS ENTIRELY TOO SHORT FOR SUBSTANTIAL REVIEW OF SUCH COMPLEX LEGISLATION.

ANY ACTIONS OF THIS SORT BY DRBC SHOULD HAVE BEEN NOTICED DIRECTLY TO THOSE HOLDING DISCHARGE PERMITS AND DRBC DOCKETS, AND TO THE MUNICIPALITIES, CHAMBERS OF COMMERCE, AND TRADE GROUPS OF THE LOWER DELAWARE.

An extensive public process over a period of four years preceded the Commission's action. Relevant background information and the components of this public process are set forth in the following chronology.

Background

- 1978 – Congress and President Jimmy Carter add two reaches of the Delaware River to the National Wild and Scenic Rivers System – the section known as the Upper Delaware, extending 73 miles from the confluence of the east and west branches of the Delaware at Hancock, N.Y. downstream to Millrift, Pa.; and the section known as the Middle Delaware, reaching approximately 40 miles, from just south of Port Jervis, N.Y. downstream to the Delaware Water Gap near Stroudsburg, Pa.

- 1992 and 1994 – In an effort to preserve the exceptional resource values of the Upper Delaware Scenic and Recreational River and the Delaware Water Gap National Recreation Area (Middle Delaware Scenic and Recreational River), DRBC promulgates new antidegradation regulations, known as the Special Protection Waters Program. The regulations are adopted in 1992 for point sources and in 1994 for non-point sources in the Upper and Middle Delaware.

- 1992 – Congress authorizes a study to determine the eligibility of the Lower Delaware River for National Wild and Scenic classification.

- 1997 – The Lower Delaware River Wild and Scenic River Study Task Force, assisted by the National Park Service, Northeast Field Area, publishes the Lower Delaware River Management Plan (LDRMP), a required component of the eligibility study authorized by Congress in 1992. The LDRMP identifies as "Goal 1" the goal of "maintain[ing] existing water quality in the Delaware River and its tributaries from measurably degrading and improving it where practical."

- 1998 – By unanimous vote of the Commission's five members, DRBC endorses inclusion of the Lower Delaware River in the National Wild and Scenic Rivers system and pledges "in support of the Lower Delaware River Management Plan [to] take such action as it deems appropriate to implement the goals of the plan commensurate with available resources." Resolution No. 98-2.

- 2000 – President Clinton signs legislation designating the 76-mile reach of the main stem Lower Delaware River from the lower boundary of the Delaware Water Gap National Recreation Area to the head of tide at Trenton as part of the National Wild & Scenic Rivers System. In an October 18, 2000 letter to U.S. Rep. Rush Holt, President Clinton writes:

> As you know, the future of the Delaware River, the longest free-flowing river in the eastern United States, is vital to the economy of the regions surrounding this important waterway. Wild and Scenic River designation will encourage natural and historic resource preservation and protect precious open space. By allowing local municipalities to sustain and protect the Delaware River as one of our nation's national treasures, this law will help to ensure the vitality of these communities and the quality of life of their citizens.

Rulemaking to Classify the Lower Delaware River as Special Protection Waters

- 2001 – The Delaware Riverkeeper Network files a petition with the Commission requesting that DRBC extend to the federally designated Lower Delaware Wild and Scenic River the same SPW protections afforded the upper and middle sections of the Delaware Wild and Scenic River.

- 2001–2004 – Water quality monitoring conducted throughout the Lower Delaware in response to the Riverkeeper's petition demonstrates that water quality in this section of the river is better than the criteria require for a set of approximately two dozen parameters.

- 2005 – Following publication of a Notice of Proposed Rulemaking in the *Federal Register* and basin state registers in September 2004, a comment period and a public hearing, and based upon studies documenting the resource values of the Lower Delaware, the *Lower Delaware River Management Plan*, federal designation of the Lower Delaware as part of the national Wild & Scenic Rivers System, and the *Water Resources Plan for the Delaware River Basin* (DRBC Water Advisory Council, 2004), the Commission finds "that the Lower Delaware River is characterized by exceptionally high scenic, recreational, and ecological values and water supply uses that require special protection." Resolution No. 2005-2.

  By unanimous vote, the Commission classifies the Lower Delaware as Significant Resource Waters (the less protective of the two available classifications) on a temporary basis, pending (a) calculation and review of a set of numeric values for existing water quality; (b) a determination as to whether certain sections of the Lower Delaware River should receive the classification of Outstanding Resource Waters; and (c) a determination as to whether the temporary Significant Resource Waters classification should be made permanent for some or all of the Lower Delaware

River. The BDT and "no measurable change" requirements of the regulations are not applicable under temporary designation. *See* Resolution No. 2005-2.

- 2005–2007 – Temporary classification of the Lower Delaware as a Significant Resource Water is extended to allow the Commission time to determine values for existing water quality, evaluate implementation options, and develop new language for aspects of the rule that require clarification to ensure their uniform implementation. Each extension is preceded by notice and a public hearing. *See* Resolutions Nos. 2005-15, 2006-22, and 2007-13.

- September 2007 – The Commission directs staff to publish in the *Federal Register* and state registers a Notice of Proposed rulemaking to permanently classify the Lower Delaware River as Special Protection Waters.

- October 2007 – The Notice of Proposed Rulemaking appears in all registers in early October. The notice establishes a comment period to run through December 6, 2007, announces informational meetings to take place in Stockton, N.J. and Easton, Pa. on October 25 and November 1, respectively; and provides for a public hearing to be held in West Trenton on December 4, 2007.

- May 2006 – May 2008 – In addition to the informational meetings advertised in the federal and state register notices in October of 2007 and regular status reports at the Commission's public meetings, Commission staff meet with groups of concerned citizens, municipal officials, professional associations and the owners and operators of individual facilities to respond to questions about the SPW program in the Lower Delaware and to explain how individual facilities might be affected by the anticipated rulemaking. A partial list of these appearances follows:

    - May 2006. New Jersey Water Environment Association Annual Conference, Atlantic City, NJ.
    - December 13, 2006. Lower Delaware Wild & Scenic Management Committee, Stockton, NJ.
    - October 2007. Pennsylvania Water Environment Association, Harrisburg, PA.
    - November 2007. Annual Meeting of the Water Resources Association of the Delaware River Basin, Bordentown, NJ.
    - February 2008. Meeting at the request of Congressman Dent with representatives of the Pennsylvania municipalities of Allentown, Bethlehem, Easton, and Catasauqua, the Lehigh County Authority and New Jersey's Warren County. At the close of this meeting, DRBC staff offer to meet individually with each of the owners/operators separately to discuss ramifications of the rule for their respective facilities.

- April 2008. Meeting with the Lehigh County Authority, the only participant in the February 11, 2008 meeting that followed up on the offer by DRBC staff to meet with any facility owner or operator individually.
- May 2008. Meeting at the request of Robert Molzahn, Executive Director of the Water Resources Association of the Delaware River Basin.

- September 2004 – December 2007 – Between September of 2004, when the Commission issued its first notice of proposed rulemaking to classify the Lower Delaware River as Special Protection Waters, and December of 2007, when the comment period closed on the amendments to DRBC's *Water Quality Regulations* published in October of 2007, the Commission receives thousands of letters and petitions in support of the classification and a few dozen opposed to it.

- May 14, 2008 – At the request of Pennsylvania, the Commission postpones a vote on the proposed rulemaking to allow Pennsylvania Department of Environmental Protection (PADEP) officials to hear more from constituents within the Lehigh Valley about how they believe the proposed amendments would affect their communities.

- May 2008. DRBC staff participate in a meeting in Harrisburg, PA convened by Kathleen A. McGinty, Secretary, PADEP, and Cathy Curran Myers, Deputy Secretary for Water Management, to hear more from constituents in the Lehigh Valley about how they believe the proposed amendments would affect their communities.

- July 2008. The Commission votes unanimously to approve the permanent designation of the Lower Delaware River as SPW and the addition of clarifying language to the rule.

1.27 HAS DRBC CONDUCTED A COST-BENEFIT ANALYSIS IN CONJUNCTION WITH THIS PROPOSAL?

THE COMMISSION HAS ACKNOWLEDGED THAT IT HAS NOT CONDUCTED AN ECONOMIC IMPACT STUDY OF THE PROPOSED REGULATIONS, OR AN EVALUATION OF THE COSTS OF IMPLEMENTING THE REGULATIONS. WHY? THE NEEDS OF A GROWING POPULATION AND ECONOMIC STABILITY MUST BE CONSIDERED.

CRITICAL INFORMATION AND ANALYSIS OF ENVIRONMENTAL IMPACTS, JUSTICE, BENEFITS, AND COSTS ARE NOWHERE FOUND IN THE RULEMAKING RECORD. A RULEMAKING ACTION OF THIS MAGNITUDE SHOULD NOT PROCEED ABSENT SUCH ANALYSIS, WHICH SHOULD BE COMPLETED AND PROVIDED TO STAKEHOLDERS.

HAS DRBC ASKED AN IMPARTIAL GROUP REFLECTING BUSINESS, MUNICIPAL, RESIDENTIAL, STATE GOVERNMENT, AND ENVIRONMENTAL INTERESTS TO ASSESS THE COSTS THAT THE REGULATED COMMUNITY IS LIKELY TO INCUR?

Also see responses to 2.6, 2.19, 2.24, 2.28, 3.19, and 3.45.

DRBC staff has not conducted a quantitative cost-benefit analysis, but through qualitative analysis and incorporating flexibility into its regulations has attempted to strike a balance between protecting a valuable water resource from degradation and allowing use of the water resource to promote sustainable development.

The Commission believes that significant benefits from Special Protection Waters designation will accrue to inhabitants of and visitors to the Lower Delaware River region who use the river as well as to the river ecosystems.

The Lower Delaware River is not an isolated resource. Rather, it is an exceptional value scenic and recreational resource used by 15,000 canoes per season in Bucks County, and by river communities for numerous festivals. It is an exceptional ecological resource, providing habitat for rare and endangered plant and animal species and for migratory and warm water fish. In addition, it is an exceptional value water supply resource, serving 2.9 million people. Preserving existing water quality in the Lower Delaware will not only protect existing uses and functions of the water resource, but will also preserve the existing water quality that supports the region's ecology and economy.

Just as water quality standards form the basis for imposing some limits on the concentration and quantity of discharges throughout the Delaware River Basin, so too the Special Protection Waters requirements, including alternatives analysis, wastewater discharge requirements, non-point source control requirements, and the no measurable change rules, will have some effect on the cost of activities that are supported by discharges to the Lower Delaware River or its tributaries. Nevertheless, there are multiple provisions of the regulations that afford the Commission and the states flexibility to authorize discharges and thereby mitigate the economic impact that might otherwise occur, where it is in the public interest to do so.

First, the Commission recognizes the importance of allowing discharges approved before the effective date of the designation of the Lower Delaware River as Special Protection Waters to continue. Consequently, many of the provisions applicable to wastewater treatment facilities approved under Section 3.8 of the Compact apply only to new facilities or to existing facilities, that are otherwise undertaking "Substantial Alterations or Additions", as defined by the rule. Thus, the cost to an existing facility of meeting SPW treatment requirements can be factored into a larger upgrade or expansion project when such a project is needed. Adoption of the rule does not compel existing facilities immediately to undertake costly improvements.

Second, alterations that are limited to changes made solely to address wet weather flows; and alterations that are limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal are not deemed to be "Substantial

Alterations or Additions." Thus, such alterations alone will not trigger the most protective SPW treatment requirements, including, but not limited to Best Demonstrable Technology (BDT) and the requirement for no measurable change to existing water quality. The clarification was added to ensure that the potential for triggering more protective limits would not discourage existing dischargers from addressing wet weather issues, improving disinfection technology or adding nutrient removal technology, priorities of some basin states.

Third, the Commission's definition of BDT is limited to seven parameters for which a variety of proven treatment technologies are available, plus disinfection. The seven parameters are biological oxygen demand, dissolved oxygen, total suspended solids, ammonia-nitrogen, total nitrogen, total phosphorus, and fecal coliform. The Commission is not proposing to update the sixteen-year old definition of BDT at this time, even though it is outdated and the Commission's member states have in some instances adopted more stringent treatment requirements. Where applicable state requirements and DRBC's differ, the more stringent will apply.

Fourth, as the amended rule makes clear through the addition of a new subsection 3.10.3A.2.d.9), the demonstration of no measurable change to existing water quality, when applicable, requires a wastewater treatment facility project sponsor to demonstrate no measurable change at the relevant water quality control point for a limited set of parameters, determined by the location of the discharge. The parameters are: ammonia (NH_3 N); dissolved oxygen (DO); fecal coliform (FC); nitrate (NO_3 N) or nitrite + nitrate (NO_2 N + NO_3 N); total nitrogen (TN) or total Kjeldahl nitrogen (TKN); total phosphorus (TP); total suspended solids (TSS); and, in the Upper and Middle Delaware reaches only, biological oxygen demand (BOD). These parameters are denoted by asterisks in Tables 1 and 2 of the SPW rules, defining existing water quality.

Fifth, new section 3.10.3A.2.d.9) of the regulations further clarifies that where a DRBC-approved model is available, an applicant is required to use it, but where a DRBC-approved model is not available, the applicant may use other methodologies submitted to and approved in advance by the Commission to estimate the cumulative effect at the applicable control point.

The no measurable change analysis may range from simple mass balance approaches to more sophisticated mathematical models that simulate the transport and fate processes that may act on the parameters listed in the appropriate control point table. The Commission is committed to using the appropriate analysis for the specific case and to working with applicants to develop the appropriate tools for evaluating their projects. The Commission also recognizes that in certain cases where multiple discharges contribute to a common watershed or stream or river segment, a more complex cumulative analysis may be needed to determine the requirements for achieving no measurable change. The Commission staff is currently developing water quality models for the Lower Delaware River and the Lehigh River which will assist in evaluating applications.

Sixth, although direct discharges of wastewater to Special Protection Waters are discouraged, new or expanding discharges directly to Significant Resource Waters (SRW) and to tributaries to SRW may be allowed to use a mixing zone within the SRW if certain conditions are satisfied and use of the mixing zone is demonstrated to be in the public interest. Section 3.10.2 A.3.b.2 was amended to make clear that the Commission may allow localized degradation of water quality for initial dilution purposes for discharges made directly to SRW or to tributaries to SRW, provided that after consultation with the state NPDES permitting agency the Commission finds that the public interest warrants these changes, and all other conditions of the section are satisfied. The latter include use of the "highest possible treatment levels . . . to limit the size and extent of the mixing zone"; and "consideration of site-specific conditions, discharge structure design, and the cost and feasibility of treatment technologies."

Finally, as is not uncommon with Commission regulations, the Special Protection Waters regulations provide flexibility to the Basin States that administer NPDES programs in intrastate waters. The regulations require the applicable state environmental agency to assure "to the extent possible, that existing water quality in Special Protection Water is not measurably changed by pollution discharged into the intrastate tributary watersheds within its jurisdiction." WQR §3.10.3.A.2.f. Further, "The state environmental agency shall require that all new or expanding wastewater treatment facilities and existing wastewater treatment plants applying for a discharge permit or permit renewal under the delegated NPDES program to comply [sic] with the applicable policies as prescribed in Section 3.10.3.A.2.d. unless it can be demonstrated, after consultation with the Commission, that these requirements are not necessary for the protection of existing water quality in the Special Protection Waters due to distance from the Special Protection Waters, time of travel, the existence of water storage impoundments, the waste assimilation characteristics of the receiving stream, and other relevant hydrological and limnological factors." *Id*. Of course, in light of its interstate functions, the Commission retains the authority through its project review and other procedures to impose requirements beyond those included in state permits where interstate waters may be affected by the discharge.

The Commission disagrees with any implication in the comments that special protection status and economic development are inconsistent goals. Water quality protection is in the interest of the long term economic health of the Lower Delaware region. Recreational, tourism and other businesses that are dependent upon maintaining the high quality of the Lower Delaware River waters have strongly endorsed the proposed regulations. The Lower Delaware River's contribution to the quality of life of those who now or in the future may live and work in the region is a substantial asset for any business seeking to locate or expand in the region.

This fact has been documented by the National Park Service (NPS), which operates two management units – the Upper Delaware Scenic and Recreational River and the Delaware Water Gap National Recreation Area – designated as Special Protection Waters in 1992. The NPS implements the National Wild and Scenic Rivers System, to which the Lower Delaware was added by Congress in 2000. A 1995 study by NPS reported that corporate CEOs said quality of life for employees is the third-most important factor in locating a

business, behind only access to domestic markets and availability of skilled labor. National Park Service, Rivers Trails and Conservation Assistance Program, "Economic Impacts of Protecting Rivers, Trails and Greenway Corridors," 4th ed. (Washington, D.C.: National Park Service, 1995), 7-3. Other studies have reported similar findings about priorities for business location. A 1997 study published in a professional journal reported that owners of small companies ranked recreation/parks/open space as the highest priority in choosing a new location for their business. John L. Crompton, Lisa L. Love, and Thomas A. More, "An Empirical Study of the Role of Recreation, Parks and Open Space in Companies' Location Decisions," *Journal of Parks and Recreation Administration* (1997), 37-58.

The Commission believes that an effort to undertake a quantitative cost-benefit analysis of the Lower Delaware Special Protection Waters designation is not warranted. A formal cost-benefit analysis should seek to quantify the existing and future short- and long-term economic, environmental and social impacts, costs and benefits. With respect to the proposed regulations, however, many of the costs and benefits cannot be quantified. Even a quasi-quantitative analysis will require controversial assumptions that will likely produce disputed, ambiguous and/or inconclusive results that would not likely help to inform the rulemaking process. A report by the U.S. EPA's Science Advisory Board, "Reducing Risk: Setting Priorities and Strategies for Environmental Protection," 1990, describes some of the problems with economic methodologies and problems inherent with the use of the "inevitable" value judgments that are necessary. In contrast, the Commission staff has concluded that the qualitative analysis of the economic, environmental, and social impacts, costs and benefits that it performed, as reflected in the discussion above, is appropriate. The Commission believes that the benefits of preserving the extraordinary scenic, recreation, drinking water, fisheries and ecological resources in the Lower Delaware River are significant and that the flexibility in the implementation of the regulations, as discussed above, serves to minimize the costs and economic burden.

Economic benefits are created by using a common water resource in a manner designed to promote sustainable development. Consequently, the Commission has concluded that a qualitative cost-benefit analysis supports the proposed regulations.

1.28 THIS RULEMAKING IS A MAJOR FEDERAL ACTION AFFECTING THE ENVIRONMENT. UNDER NEPA, ALTERNATIVE APPROACHES AND IMPACT ANALYSES ARE CONDUCTED ROUTINELY FOR SUCH RULEMAKING, ESPECIALLY FOR RULES SUCH AS THIS THAT RADICALLY ALTER REGULATORY PRACTICES. THIS PROPOSAL FAILED TO DO SO, AND SHOULD DEFER ACTION UNTIL SUCH A REVIEW HAS BEEN CONDUCTED.

The Commission does not deem its proposed adoption of Special Protection Waters regulations to be a federal action subject to NEPA. DRBC is not a federal agency, but rather, an interstate and federal compact agency through which the member states and the federal government act jointly. Although a majority vote is sufficient for most Commission actions, in practice, the Commission's five members prefer to act by

consensus (i.e., by unanimous vote). Please see response to Comment 1.27 concerning economic impacts of the proposed action.

1.29 DRBC SHOULD AT LEAST ADOPT SOME MEANINGFUL THRESHOLD LEVEL OF WASTE DISCHARGE, OR DISCHARGE INCREASE, BEFORE IMPOSING REQUIREMENTS AIMED AT "NO MEASURABLE CHANGE" IN WATER QUALITY.

Thresholds do apply to the application of the requirement that "there be no measurable change in existing water quality except towards natural conditions in waters considered by the Commission to have exceptionally high scenic, recreational, ecological and/or high water supply values." The Commission's *Rules of Practice and Procedure* (RPP) provide that in the drainage area of Outstanding Basin Waters and Significant Resource Waters, DRBC review is triggered by the construction of a new domestic sewage treatment facility or by alterations or additions to an existing facility when the design capacity of the facility is equal to or exceeds 10,000 gallons per day. *See* RPP § 2.3.5A.4. The requirement that a project demonstrate no measurable change to existing water quality is triggered for any *new* facility that meets the 10,000 gpd threshold. An *existing* facility subject to DRBC review is required to demonstrate no measurable change to existing water quality only when it undertakes "Substantial Alterations or Additions" as defined by the rule.

The SPW rules have been amended to clarify in a new subsection 3.10.3 A.2.d.9) that for any wastewater treatment project subject to the "no measurable change" requirement, the demonstration of no measurable change to existing water quality is satisfied by a demonstration that the new or incremental increase in the facility's flow or load will cause no measurable change at the relevant water quality control point for a limited set of parameters: ammonia (NH_3 N); dissolved oxygen (DO); fecal coliform (FC); nitrate (NO_3 N) or nitrite + nitrate (NO_2 N + NO_3 N); total nitrogen (TN) or total Kjeldahl nitrogen (TKN); total phosphorus (TP); total suspended solids (TSS); and, in the Upper and Middle Delaware reaches only, biological oxygen demand (BOD). These parameters are denoted by asterisks in Tables 1 and 2 of the SPW rules, defining existing water quality for SPW reaches above and below the Delaware Water Gap, respectively.

1.30 WE QUESTION THE LEGAL BASIS FOR THE DRBC DEFINING BDT, WHICH APPEARS TO RUN CONTRADICTORY TO THE PROVISIONS OF THE FEDERAL CWA THAT DEFINES THE TECHNOLOGY LIMITATIONS FOR TREATMENT FACILITIES AND REQUIRES THE MORE RESTRICTIVE OF WATER QUALITY STANDARDS AND/OR THE TECHNOLOGY LIMITATIONS.

Articles 3 and 5 of the *Compact* provide the authority for the Commission to establish municipal and industrial treatment requirements to protect the waters of the Basin. The Commission approved its definition of BDT in 1992 after public notice and comment. It is not proposing any changes to the definition of BDT. In addition, the federal Clean Water legislation does not preclude states or interstate commissions from establishing

more stringent treatment requirements than those required by the federal law to protect local water quality. Several states, including Pennsylvania, have adopted definitions of BDT, which in some instances are more stringent than the Commission's.

1.31 THIS RULEMAKING TAKES AN UNNECESSARILY RESTRICTIVE APPROACH WHICH ON BALANCE WILL CAUSE MORE ENVIRONMENTAL HARM THAN GOOD AND WASTE LOCAL RESOURCES.

Permanent SPW classification of the Lower Delaware River will allow the Commission to apply its antidegradation policies and regulations to protect waters of the Lower Delaware River that the Commission has determined possess exceptional value. On the basis of extensive monitoring, the Commission has found that the water quality of the Lower Delaware is generally higher than the water quality criteria applicable to this river segment. The Lower Delaware serves as an important water supply for communities in two states as well as for aquatic life and wildlife. Moreover, it provides habitat for a significant recreational fishery that draws many visitors and helps support local economies. The SPW regulations have been developed in a way that is mindful of the need for regional economic growth and development while protecting important water resources.

1.32 THERE WAS NO APPARENT CONSIDERATION OF ALTERNATIVE APPROACHES THAT WOULD ACHIEVE THE GOALS OF THE SPW DESIGNATION WHILE IMPOSING LESSER COSTS ON WATERSHED COMMUNITIES. LEAST COST MEASURES MUST BE CONSIDERED, AS WITH ANY FEDERAL REGULATORY INITIATIVE.

DRBC SHOULD EXAMINE ALTERNATIVES TO DESIGNATION, INCLUDING CONVENING A STAKEHOLDER PROCESS TO ADDRESS ISSUES IN SPECIFIC REACHES, AS WELL AS BROADER EFFORTS SUCH AS NON-POINT CONTROL PROGRAMS.

The SPW program is not a federal initiative but a rulemaking by an interstate-federal compact agency. As to an assessment of the cost to watershed communities, please see the response to comment 1.27 above. We also note that the Special Protection Waters Program has been implemented in the drainage area to the upper and middle portions of the non-tidal Delaware River since 1992 for point sources and since 1994 for non-point sources. Rather than inventing an entirely new program to achieve the same objectives as an existing program, the Commission is extending its SPW program downstream to include the lower portion of the non-tidal Delaware River, in response to documented evidence that this section of the river also possesses water quality, water supply, ecological, scenic and recreational values that merit protection.

1.33 WHAT SPECIFIC LEGAL AND PROGRAMMATIC RAMIFICATIONS WILL THIS RULEMAKING HAVE UPON STATE NPDES AND WATER

QUALITY STANDARDS PROGRAMS, AND HOW WILL THIS RULEMAKING INTEGRATE WITH EXISTING RULES?

SPW requirements are included in dockets issued by the Commission. Existing agreements between the Basin states and the Commission require effluent limitations and other conditions contained in NPDES permits and Commission dockets to reflect the more stringent of state or Commission requirements. Emergency power, remote alarms, and emergency management plans (WQR §§ 3.10.3.A.2.d.1), 3.10.3.A.2.d.2) and 3.10.3.A.2.d.4)) are required to be included at the next NPDES permit issuance after SPW designation. For existing dischargers, effluent limitations and/or BDT (in the case of a direct discharge to the Delaware River) will not be required until "Substantial Alterations or Additions" are undertaken. New dischargers are required to meet the SPW requirements in order to receive docket approval from the Commission. It is expected that NPDES permits will reflect Commission requirements if they are more stringent than state requirements.

1.34 THIS SPW NON-DEGRADATION APPROACH MAY NOT BE ENVIRONMENTALLY SOUND, DUE TO HIGH ENERGY EXPENDITURES FOR SUCH PROCESSES AS REVERSE OSMOSIS, AND HARMFUL SALTS AND BY-PRODUCTS FROM NUTRIENT TREATMENT METHODS.

IT IS UNFORTUNATE THAT DRBC HAS CHOSEN TO PROMOTE UV DISINFECTION AND NUTRIENT REMOVAL SYSTEMS WITHOUT CONSIDERING THEM WITH REGARD TO SUSTAINABILITY. WHILE THESE TREATMENT PROCESSES CAN BE EFFECTIVE, THEY CAN ALSO BE VERY ENERGY AND CHEMICALLY INTENSIVE. AT SOME POINT, THIS RESULTS IN GREATER ENVIRONMENTAL HARM THAN GOOD. WE SUBMIT THAT ALL PROPOSED PLANT IMPROVEMENTS SHOULD BE EVALUATED THROUGH THE LENS OF SUSTAINABILITY AND THAT PREFERENTIAL TREATMENT FOR ANY SYSTEM SHOULD BE ELIMINATED FROM THE REGULATION ENTIRELY.

The author of the first comment incorrectly assumes that dischargers will need to implement extraordinary treatment technologies such as reverse osmosis in order to comply with the no measurable change to existing water quality requirements of SPW. The Upper and Middle Delaware River have been designated SPW since 1992. Based on the Commission's experience in the Upper and Middle Delaware River, reverse osmosis has not been required to comply with the SPW requirement for no measurable change to existing water quality.

A central feature of the SPW program for point sources, which was established in 1992, is that new and increased discharges to SPW are discouraged. Where direct discharges to SPW are allowed, the regulations prescribe the use of BDT for a set of common parameters for which treatment technologies are readily available – dissolved oxygen,

total suspended solids, ammonia nitrogen, total nitrogen, pH, total phosphorous, and fecal coliform. Nutrient removal technologies exist that are capable of achieving the specified levels through application of aerobic and anaerobic processes. Regarding UV disinfection, the definition of BDT reads: "Best demonstrable technology for disinfection shall be ultraviolet light disinfection or an equivalent disinfection process that results in no harm to aquatic life, does not produce toxic chemical residuals, and results in effective bacterial and viral destruction." Thus, dischargers are at liberty to provide an alternative treatment technology that achieves the same results as UV.

1.35 NOWHERE IN THIS RULEMAKING PACKAGE IS THERE ANY RECOGNITION OR ANALYSIS OF THE CURRENT NEW JERSEY C1 PROGRAM AND ITS ABILITY TO ACHIEVE THE GOALS OF THE SPW DESIGNATION RELATED TO THE MAJOR NEW JERSEY TRIBUTARIES. THIS IS A CRITICAL OVERSIGHT THAT MUST BE RECTIFIED.

Please also see response to 1.9.

The existing DRBC/State agreement requires the inclusion of the more stringent of the state or DRBC requirements. Essentially, SPW as applied to the tributaries of the Delaware River is aimed at protecting the existing water quality of the mainstem Delaware River. The current New Jersey C1 program is designed to protect that portion of a tributary to the Delaware River designated by New Jersey as C1. NPDES requirements imposed by NJ on a discharger to C1 waters may be sufficient to meet the SPW requirements. In such cases, the Commission will accept the state's requirements.

1.36 IT IS VERY DIFFICULT TO MAKE AN EVALUATION OF EFFECTS OF THE PROPOSED PROGRAM UPON WATER USERS AND DISCHARGERS WITHOUT A DETAILED GUIDANCE DOCUMENT. IT IS UNFAIR TO DEFER ISSUANCE OF THE GUIDANCE DOCUMENT UNTIL AFTER THE COMMENT PERIOD HAS ENDED. THERE ARE TOO MANY DETAILS TO BE ASSESSED WITHOUT KNOWING HOW IMPLEMENTATION WOULD PROCEED, AND SUCH GUIDANCE SHOULD BE AVAILABLE DURING THE COMMENT PERIOD.

COMMISSION SHOULD DEFER FINAL DECISIONS UNTIL GUIDANCE DOCUMENT IS RELEASED, AND UNTIL FURTHER DISCUSSIONS AND PUBLIC WORKSHOPS ARE HELD WITH THE REGULATED COMMUNITY AND OTHER CONCERNED PARTIES.

Also see responses at 1.37 and 2.17.

The SPW program has been in place for the Upper and Middle Delaware River since 1992 for point sources and since 1994 for non-point sources. The Commission has accepted a variety of technical analyses to make the required demonstrations for both new and expanding wastewater treatment projects. Methodologies used to demonstrate

no measurable change to existing water quality are similar to those employed to demonstrate compliance with conventional water quality criteria and designated uses. The Commission has accepted analyses ranging from a relatively simple "hold the load" demonstration (showing that loadings will remain equal to or lower than those occurring at the time of SPW designation), to dilution computations, to complex water quality modeling analyses. The Commission is committed to using the appropriate analysis for the specific case. Past approvals furnish an excellent record for new and expanding dischargers to rely upon.

The Commission is preparing a manual to assist Commission and state staff in implementation of the regulations. The draft manual is not yet available because it must be revised to reflect amendments to the SPW regulations as approved, including permanent classification of the Lower Delaware River. Releasing an incomplete draft manual that has not been updated to correspond to the amended regulations would only serve to confuse potential dischargers.

1.37 THERE ARE NO METHODOLOGIES SPECIFIED FOR DEMONSTRATION OF NO MEASURABLE CHANGE FOR NEW OR EXPANDING FACILITIES. THIS REGULATORY PROPOSAL SHOULD BE DEFERRED UNTIL SUCH A BASIC MANAGEMENT TOOL BECOMES AVAILABLE.

THE PROPOSED AMENDMENTS PLACE AN UNDUE BURDEN ON THE NEXT FACILITY IN A WATERSHED THAT HAPPENS TO TRIGGER A DRBC ANTI-DEGRADATION REVIEW. THIS FACILITY MAY HAVE TO PERFORM A WATERSHED-WIDE STUDY THAT ACCOUNTS FOR ALL POINT SOURCES IN A WATERSHED. THIS REPRESENTS A SUBSTANTIAL UNDERTAKING IN A LARGE AND COMPLEX WATERSHED LIKE THE LEHIGH, ESPECIALLY AS EXISTING DATA ARE NOT ADEQUATE FOR SUCH A STUDY. THESE TYPES OF STUDIES SHOULD BE UNDERTAKEN BY THE REGULATORY AGENCY IN COORDINATION WITH AFFECTED PARTIES, NOT IMPOSED ON THE FIRST COMMUNITY THAT HAPPENS TO COME UNDER REGULATORY REVIEW.

The SPW rules have been amended to clarify in new subsection 3.10.3A.2.d.9) that for any wastewater treatment project subject to the "no measurable change" requirement, the demonstration of no measurable change to existing water quality is satisfied by a demonstration that the new or incremental increase in the facility's flow or load will cause no measurable change at the relevant water quality control point for a limited set of parameters: ammonia (NH_3 N); dissolved oxygen (DO); fecal coliform (FC); nitrate (NO_3 N) or nitrite + nitrate (NO_2 N + NO_3 N); total nitrogen (TN) or total Kjeldahl nitrogen (TKN); total phosphorus (TP); total suspended solids (TSS); and, in the upper and middle sections of the Delaware River only, biological oxygen demand (BOD).

Methodologies used to demonstrate no measurable change (NMC) to existing water quality (EWQ) are similar to those employed to demonstrate compliance with conventional water quality criteria and designated uses. The Commission has accepted analyses ranging from a relatively simple "hold the load" demonstration (showing that loadings will remain equal to or lower than those occurring at the time of SPW designation), to dilution computations, to complex water quality modeling analyses. The parameters used in the demonstration are asterisked in Table 1, applicable to control points within the main stem Delaware River between Hancock, NY and the Delaware Water Gap, and in new Table 2, applicable to control points below the Delaware Water Gap.

The second and third sentences of the new subsection address the analytical methods applicants are to use in the no measurable change analysis. Approved methods range from simple mass balance approaches to more sophisticated mathematical models that simulate the transport and fate processes that may act on the parameters listed in the appropriate control point table. Where a DRBC-approved model is available, an applicant is required to use it. Where a DRBC-approved model is not available, the applicant is required to use other methodologies submitted to and approved in advance by the Commission to estimate the cumulative effect at the applicable control point. The Commission is committed to using the appropriate analysis for the specific case and to working with applicants to develop the appropriate tools for evaluating their projects. The Commission recognizes that in certain cases where multiple discharges contribute to a common watershed or stream or river segment, a more complex cumulative analysis may be needed to determine the requirements for achieving no measurable change. The Commission staff is currently developing water quality models for the Lower Delaware River and the Lehigh River which will assist in evaluating applications.

The Commission believes that most tributary dischargers will be able to conduct the no measurable change analysis without the need for sophisticated modeling of cumulative effects. In the absence of Commission-developed or approved models, the Commission staff will work with the dischargers in the Lehigh River and other watersheds to develop and conduct protective NMC analyses, using techniques commensurate with the anticipated effects of the discharge. Such techniques may be required to include a factor of safety or the use of more conservative assumptions to protect EWQ, since these less sophisticated analyses may underestimate the impact of an increased load or flow on existing water quality in the designated waters. In determining the degree of analysis and the factor of safety, the Commission will consider the size and scope of the requested new or increased flow or load relative to the current flow or load, the distance to the applicable Water Quality Control Point, the number of discharges in the watershed or stream segment that would need to be considered, the potential for these discharges to reach their permitted load, and the potential and timing for these discharges to require substantial alterations or additions or increased flows or loads. Although the Commission staff will work with the applicant, the applicant at all times will retain the burden of demonstrating no measurable change.

Design wastewater treatment plant loadings are usually not reached for several years after new or expanding loads are proposed. Thus, decreases or increases to assigned permit and/or docket limits may be made if an approved model later demonstrates that initially assigned loads/effluent limits are either too conservative, or would result in a measurable change.

Again, the Commission is committed to using the appropriate analysis for the specific case. Past approvals furnish an excellent record for new and expanding dischargers to rely upon.

1.38 THE UNDERLYING LEGISLATION INDICATED THAT EWQ SHOULD BE MAINTAINED, BUT DID NOT INDICATE THAT NON-MEASURABLE CHANGES IN WATER QUALITY SHOULD BE REGULATED.

THE LEGISLATION DID NOT STATE THAT EXCESSIVE TREATMENT REQUIREMENTS SHOULD BE IMPOSED ON FACILITIES CAUSING NO MEASURABLE DEGRADATION TO EWQ. THE UNDERLYING LEGISLATIVE AUTHORITY DOES NOT SUPPORT FORCING CONSTRUCTION OF ADDITIONAL TREATMENT TO ADDRESS LOADINGS ASSOCIATED WITH NON-MEASURABLE IMPACTS, OR THE ASSOCIATED FEASIBILITY AND AFFORDABILITY TESTS FOR ALTERNATIVE TREATMENT TECHNOLOGIES.

DRBC IS NOT AUTHORIZED TO IMPOSE ADDITIONAL TREATMENT REQUIREMENTS WHERE MEASURABLE DEGRADATION IS NOT DEMONSTRATED.

The underlying legislation establishing the Commission's authority to adopt and implement water quality regulations is the *Delaware River Basin Compact*. The Compact provides in part that "the commission may assume jurisdiction to control future pollution and abate existing pollution in the waters of the basin, whenever it determines after investigation and public hearing upon due notice that the effectuation of the comprehensive plan so requires." Compact § 5.2.

Neither the Wild and Scenic Rivers Act, nor the Lower Delaware River Management Plan developed in accordance with that act, constrains the Commission from protecting existing water quality in the Lower Delaware River through its Special Protection Waters regulations. The Wild and Scenic Rivers Act expressly provides that "[n]othing contained in this chapter shall be construed to alter, amend, repeal, interpret, modify, or be in conflict with any interstate compact made by any States which contain any portion of the national wild and scenic rivers system." 16 U.S.C. § 1284(e).

The Special Protection Waters program was adopted by the Commission as part of its comprehensive plan and Water Quality Regulations (WQR) in 1992 for point sources and

in 1994 for non-point sources. The SPW program is an anti-degradation program. In contrast with water quality standards programs, which protect designated uses, anti-degradation programs like the SPW program are designed to preserve water quality that is substantively better than necessary to protect designated uses. The objective of the SPW program is "that there be no measurable change in existing water quality except towards natural conditions in waters considered by the Commission to have exceptionally high scenic, recreational, ecological and/or high water supply values." WQR § 3.10.3A.2. The existing rules define "Natural Condition" as "the ecological state of a water body that represents conditions without human influence." WQR § 3.10.2.a.7).

In the Commission's judgment, the allowable discharge and treatment requirements established by the Special Protection Waters regulations are reasonably tailored to achieve its "no measurable change objective". The Commission has included in the rule a variety of features that reduce the impact of the SPW requirements on existing facilities (see response to Comment 1.27 above).

1.39 TESTS FOR CONSTRUCTING ALTERNATIVE TREATMENT SHOULD BE BASED ON COST-EFFECTIVENESS AND PRACTICALITY, AS DIRECTED IN THE [LOWER DELAWARE WILD & SCENIC] MANAGEMENT PLAN, NOT AFFORDABILITY AND FEASIBILITY. IT IS UNCERTAIN WHAT LEGAL AUTHORITY IS BEING USED TO IMPOSE THESE MORE RESTRICTIVE TESTS ON MUNICIPAL GOVERNMENTS, AND THE RULES SHOULD BE MODIFIED TO CONFORM TO EXISTING FEDERAL AND STATE AUTHORITY.

AFFORDABILITY AND FEASIBILITY TESTS ARE NOT PART OF THE FEDERAL PROGRAM FOR ANTIDEGRADATION IMPLEMENTATION, AND DRBC LACKS AUTHORITY TO CREATE A NEW TEST FOR IMPOSING TREATMENT COSTS ON MUNICIPAL GOVERNMENTS THAT IS NOT RELATED TO SOME DEMONSTRATED ENVIRONMENTAL NEED.

Please also see 1.38 above regarding Commission authority.

The Commission's policies on allowable discharges, set forth at Section 3.10.3A.2.c. of the amended rule, include discouraging direct discharges to SPW, a classification that is assigned primarily to the main stem Delaware River, and encouraging natural wastewater treatment system alternatives throughout the drainage area to SPW. These policies have been a part of the SPW program from its inception in 1992. The Commission's authority for these policies comes from the *Delaware River Basin Compact* and is independent of state or federal authority. (Please see response to 1.38 above.)

Thus, Sections 3.10.3A.2.c.1) and 2) of the SPW regulations require the sponsors of a new discharge or substantial alterations or additions to an existing discharge to evaluate the technical and financial feasibility of (a) alternatives to a *direct* discharge to SPW if such is proposed and/or (b) natural treatment alternatives. Determination of technical and

financial infeasibility occurs on a case-by-case basis, taking into consideration local conditions such as availability of land, soil types, degree of treatment required, local economic conditions and other factors. In applying the "technical and financial feasibility" standard the Commission will look first at the technical feasibility of alternatives. If there is found to be a technically feasible alternative, the Commission will consider a demonstration by the applicant that the alternative is financially infeasible. Demonstrations by urban discharges need not be burdensome. Sponsors of urban discharges that lack access to land for natural treatment processes will be able to make such demonstrations at the time they perform their facility planning analysis. The Commission may consider as guidance but will not as a rule require consistency with the EPA's *Appendix to the Water Quality Standards Handbook – Second Edition: Interim Economic Guidance for Water Quality Standards* (EPA- 823-B-95-002, March 1995). Within each of the no-discharge and natural treatment alternative categories of the SPW allowable discharge hierarchy, a discharger may select the technical alternative that the discharger finds most cost effective.

It is noted that the alternatives analysis is intended to apply only to loadings that were not occurring at the time of SPW designation. Loadings that were occurring at the time of SPW designation may continue indefinitely under the rule.

1.40 A STAKEHOLDER TASK GROUP SHOULD BE ESTABLISHED TO EVALUATE ALTERNATIVE APPROACHES AND SET FORTH REASONABLE PROCEDURES THAT PROPERLY CONSIDER EXISTING PLANT PERFORMANCE AND APPROVED GROWTH AT PERMITTED FACILITIES. THIS GROUP SHOULD ADDRESS THE SERIOUS FLAWS IN THE PROPOSAL, CONTRIBUTE TO A MANUAL OF PRACTICE, DISCUSS SOLUTIONS WITH AFFECTED PARTIES, AND THEN PROPOSE WORKABLE, FAIR AND MEANINGFUL REGULATIONS.

THERE NEEDS TO BE MORE OF AN INCLUSIVE, OPEN DISCUSSION OF THE OPTIONS AVAILABLE TO ACHIEVE WATER QUALITY GOALS.

For a chronology of the rulemaking process, please see 1.26 above.

The SPW program has been in effect in the Upper and Middle Delaware since 1992. There are numerous examples available to document that reasonable procedures are in place to assure workable, fair and meaningful implementation of the regulations.

The SPW rules, like other substantive rules of the Commission, are promulgated through formal "notice and comment" rulemaking, which includes an opportunity for the public to submit written and/or verbal comments. The Commission's January 19, 2005 resolution temporarily designating the Lower Delaware River as SPW followed such a public process. Informal opportunities for public comment also were provided in the case of the Lower Delaware SPW designation.

DRBC began its consideration of an SPW classification of the Lower Delaware in 1999. This SPW classification was discussed at several public meetings of the Commission that were duly noticed in the Federal Register, state registers, and on the Commission's website over the past five years. The Commission's Water Quality Advisory Committee, a stakeholder group formed to advise the Commission, has likewise discussed this SPW designation. Public discussions and formal resolutions of the Commission have included Commission recognition and support for including the Lower Delaware in the federal Wild and Scenic Rivers System in 2000; support for the Lower Delaware River Management Plan issued in 1997, which established as its primary goal to "maintain existing water quality in the Delaware River and its tributaries from measurably degrading and improve it where practical"; and consideration of a petition submitted in 2001 by the Delaware Riverkeeper Network to classify the Lower Delaware as SPW.

The Commission solicited public input at each of its meetings at which the topic was discussed. In addition to publishing the proposed rule change in the Federal Register and each of the basin state registers and posting the proposed rule change on the Commission's website, the Commission held two publicized informational meetings at locations along the Lower Delaware River in Pennsylvania and New Jersey. The effects of the rule change on the regulated community were reviewed at these meetings. Given all these opportunities for stakeholder involvement, the Commission does not see the need for another advisory group.

1.41 THIS PROPOSAL TARGETS ONLY THOSE SITES THAT ARE MAJOR WATER USERS OR WASTE DISCHARGERS. THE COMMISSION PROPOSES TO DELETE REQUIREMENTS FOR NON-POINT SOURCES TO MEET THE SAME STANDARDS AS POINT SOURCES. THIS IGNORES THE LARGEST SOURCE OF WATER POLLUTION, AND UNFAIRLY SHIFTS RESPONSIBILITY TO THOSE SITES THAT HAVE DONE THE MOST TO REDUCE RIVER POLLUTION.

The comment is incorrect. The SPW program addresses both point and non-point sources of water pollution. No proposal has been made to delete the requirements for non-point sources. New and expanding wastewater treatment facilities with design discharges of 10,000 gpd or more are subject to SPW requirements for both point and non-point sources. Such discharges must demonstrate that any incremental load above that actually discharged at the time of SPW designation does not result in a measurable change to existing water quality as defined in the regulations. New developments connecting to such facilities must demonstrate compliance with SPW non-point source requirements. Ground and/or surface water withdrawal projects of more than 100,000 gpd are likewise subject to the SPW requirements for non-point sources.

Amendments to the regulations at Section 3.10.3 A.2.e.1) provide the executive director with the authority, upon agreement with a member state, to delegate review and approval responsibilities with respect to the SPW non-point source requirements to the appropriate

state environmental agency. Such authority is proposed to avoid duplication of state and Commission effort.

The amendments also clarify the requirements applicable to public authorities, special purpose districts, and private corporations that do not possess the legal authority to implement non-point source controls within their new or expanded service areas. Specifically, the amendments clarify that such entities are subject to the requirement set forth in Section 3.10.3 A.2.e.2) that no new connection may be approved unless the area(s) to be served is (are) regulated by a non-point source pollution control plan approved by the Commission.

1.42 REMOVAL OF THE "ACTUAL CONCENTRATION" STANDARD FROM THE DEFINITION FOR "EXISTING WATER QUALITY" HAS CONSEQUENCES FOR WATERS THAT MAY IN THE FUTURE BE SUBJECT TO SPW REGULATIONS, AND IT DEPRIVES STAKEHOLDERS OF A BENCHMARK AGAINST WHICH TO MEASURE THE COMMISSION'S FUTURE DETERMINATIONS OF EWQ AT LOCATIONS OTHER THAN THOSE IDENTIFIED IN TABLE 2. IN ADDITION, GUIDANCE SHOULD BE ISSUED THAT EXPLAINS EXACTLY HOW EWQ MAY BE EXTRAPOLATED TO SITES WITHOUT BCPS OR ICPS.

For purposes of the SPW program, the Commission has determined existing water quality by measurement of actual concentrations. However, there are instances in which actual concentrations for certain parameters are worse than the applicable state or DRBC criteria require. Because DRBC does not seek to maintain water quality that fails to meet criteria, the value assigned to existing water quality (EWQ) for purposes of the SPW program in such instances is the applicable criterion.

In cases where no water quality control point has been established at the confluence of a tributary with the main stem, DRBC may apply the EWQ established for the nearest upstream or downstream water quality control point; or it may develop (and require the applicant to assist in developing) EWQ for the specific tributary, using existing data from other sources. EWQ values will be determined through the use of existing water quality data and/or a water quality model based upon available data. A mixing zone may be allowed in the main stem in some instances in accordance with section 3.10.3A.2.b.2) of the regulations.

1.43 DRBC NEEDS TO CLARIFY THE REQUIREMENTS FOR NON-POINT SOURCE POLLUTION CONTROL PLANS AS THEY APPLY TO PUBLIC AUTHORITIES. WE NOTE THAT THE AUTHORITY OF NJ UTILITY AUTHORITIES TO ADDRESS STORMWATER IS CURRENTLY THE SUBJECT OF LEGISLATION PENDING IN THE NJ LEGISLATURE. AS PROPOSED, THE DRBC REGULATIONS APPEAR TO SHIFT THESE AUTHORITIES' OBLIGATIONS BEYOND THE SCOPE OF THEIR CURRENT LEGAL AUTHORITY. MORE

FUNDAMENTALLY, THE PROPOSED REGULATION APPEARS TO SHIFT THE COSTS OF STORMWATER COMPLIANCE TO AUTHORITY RATEPAYERS FROM OTHERWISE RESPONSIBLE DEVELOPERS AND OTHER STORMWATER PERMIT HOLDERS.

Section 3.10.3 A.2.e.1) of the SPW rule has been amended to clarify the non-point source control plan (NPSPCP) requirements as applied to public authorities, other special purpose districts, and private corporations that lack legal authority to implement non-point source controls in their new or expanded service areas. Such entities may not approve new connections from newly developed areas or projects until an entity with the authority and responsibility to put a NPSPCP in place has submitted such a plan to the Commission and received the Commission's approval for the plan. In some instances the entity may be a municipality or county, and in other cases, it may be a developer.

The SPW regulations do not shift the cost of stormwater compliance from stormwater permit holders to water purveyors or wastewater authorities. The Commission requires evidence of compliance with SPW non-point source requirements as part of a project approval application. In some instances, the Commission may grant conditional approval in the absence of such evidence. In such cases, the approval does not allow new connections to the facility until the docket-holder demonstrates that a Commission-approved non-point source pollution control program (NPSPCP) is in place.

Wastewater dischargers or water withdrawers that have the obligation to comply with state non-point source requirements or the authority to implement a NPSPCP in accordance with SPW requirements will continue to have these obligations under the amended SPW program.

1.44 WHY NOT CONTINUE TO EXTEND TEMPORARY DESIGNATION UNTIL THE CONSEQUENCES OF IMPLEMENTATION CAN BE TRULY ASSESSED? COMMENTER URGES EXTENSION OF TEMPORARY DESIGNATION FOR A PERIOD OF UP TO 5 YEARS, DURING WHICH CRITERIA MAY BE IMPLEMENTED IN PHASES, WITH ANNUAL EVALUATIONS OF IMPLEMENTATION EFFECTS FOR REVIEW AND COMMENT BY THE PUBLIC. SUCH REPORTS SHOULD ADDRESS BENEFITS, COSTS, AND CONSEQUENCES OF THE IMPLEMENTATION.

Because temporary designation does not include a regulatory definition of "existing water quality" for the Lower Delaware, it does not provide the level of protection that the Commission has determined, after extensive investigation, is warranted for this reach of the non-tidal Delaware River. Postponing such protection for an additional five years carries the risk of degradation of the high water quality for which the Commission has determined SPW protection is warranted. As the states have learned through the process of developing and implementing total maximum daily loads (TMDLs) for impaired waters in accordance with the federal Clean Water Act, reversing an impairment after it has occurred may be more costly than preventing degradation in the first place. As to

evaluating the costs and benefits of the SPW program, please see the response to 1.27, above.

II. Impacts of Designation

EFFECTS ON DEVELOPMENT & REDEVELOPMENT

2.1 WILL THESE REGULATIONS AFFECT THE ABILITY TO DEVELOP LOW-COST HOUSING BY REQUIRING ON-LOT SYSTEMS THAT ARE INCONSISTENT WITH SMALL LOT SIZES?

New discharges directly to SPW and substantial alterations or additions to existing facilities that discharge directly to SPW cannot be approved until the applicant has fully analyzed both non-discharge and natural treatment alternatives. New discharges to tributaries to SPW, and substantial alterations or additions to existing facilities that discharge to tributaries to SPW must consider natural treatment alternatives. On-site disposal may be among the alternatives considered in these analyses. The feasibility of on-site disposal depends in part upon a determination that ground water quality would not be compromised. The regulations do not require the use of on-lot systems where they cannot be used safely.

2.2 WOULD THE PROPOSED AMENDMENTS ALLOW FOR DISCHARGE FROM A REDEVELOPMENT SITE TO THE PROPOSED OUTSTANDING BASIN WATERS (OBW) AND WOULD THEY PRECLUDE STORMWATER RUNOFF?

DRBC is not proposing regulations specific to redevelopment or brownfield sites. The point and non-point source controls required at those sites are the same as would be required for any project reviewable under Section 3.8 of the *Delaware River Basin Compact*.

The amended rule does not extend the OBW classification to new areas. This classification remains in effect for the Upper and Middle Delaware River, which were classified OBW in 1992. The answer to the commenter's question depends in part on whether a discharge from the redevelopment or brownfield site in question existed at the time of SPW designation. If a discharge was occurring at the time of SPW designation and the proposed redevelopment would result in no increase in the load occurring at that time, then the "no measurable change" analysis would not be required. Similarly, if the redevelopment project were proposing to discharge to an offsite wastewater treatment facility that was in operation at the time of SPW designation, as long as the offsite treatment facility were not to undertake substantial alterations or additions as defined by the rule, the no measurable change and other SPW treatment requirements would not apply.

The SPW regulations also require that a non-point source management plan approved by the DRBC be in place for any redevelopment site subject to DRBC review. If the site is

already part of a DRBC-approved watershed non-point source management plan, then no additional demonstration is required.

A new or expanding point source discharge directly to OBW may be approved only when (1) all non-discharge/load reduction alternatives have been fully evaluated and rejected because of technical and/or financial infeasibility; (2) the applicant demonstrates that the discharge will cause no measurable change at the applicable water quality control point; and (3) complete mixing of effluent with the receiving stream is, for all practical intents and purposes, instantaneous (*see* WQR § 3.10.3A.2.b.1) and c.1).), and provided that all other applicable SPW requirements are also satisfied.

A non-point source pollution control plan approved by the Commission must be implemented to control the new or increased non-point source loads generated within the portion of a project's service area located within the drainage area to Special Protection Waters. WQR § 3.10.3A.2.e.1).

2.3 WHAT ARE THE POTENTIAL UNINTENDED CONSEQUENCES OF THIS PROPOSED REGULATION ON REDEVELOPMENT OF BROWNFIELD SITES?

Point and non-point source discharges from brownfield sites are considered part of existing water quality as long as they existed at the time of SPW designation (1992 for the Upper and Middle Delaware, and 2005 for the Lower Delaware). DRBC is not proposing regulations specific to the development of brownfield sites. The point and non-point source control requirements applicable to such sites are the same as those applicable to any project reviewable under Section 3.8 of the Delaware River Basin Compact. Because no additional point source requirements are being placed on brownfields redevelopment sites served by existing treatment facilities discharging within their NPDES-permitted load capacity, the SPW policies may in fact encourage redevelopment of brownfield sites within the service areas of existing discharge facilities. In cases where the discharge does not pass through an existing treatment facility, no-discharge and load reduction alternatives must be evaluated before new or expanded discharges are allowed. The SPW regulations also require that a non-point source management plan approved by the DRBC be implemented for any redevelopment site subject to Section 3.8 review, unless the site is already a part of a DRBC-approved watershed non-point source management plan.

2.4 IF THESE REGULATIONS WERE IN PLACE AT THE TIME WHEN THE BETHLEHEM STEEL SITE WAS REDEVELOPED TO INSTALL A POWER GENERATION FACILITY WITH A RE-CIRCULATING COOLING SYSTEM THAT DISCHARGES HARMLESS MINERAL TDS, WOULD NMC PROVISIONS BE TRIGGERED AT THE LEHIGH BCP? HOW WOULD NMC POLICY BE APPLIED TO THIS CASE?

The Commission does not agree with the commenter's statement that Total Dissolved Solids (TDS) are harmless. Regardless of whether a discharge is located within the

drainage area of Special Protection Waters, the discharger must comply with the Commission's basin-wide or waterway-specific TDS requirements.

TDS and temperature are *not* parameters included in the no measurable change (NMC) analysis for wastewater treatment facilities within the drainage area of Special Protection Waters. Thus, if the pollutants in a hypothetical cooling water discharge were TDS and temperature alone, the project would not be required to demonstrate no measurable change to existing water quality at the applicable control point. However, if the plant modifications constituted "Substantial Alterations or Additions" as defined in the rule, other SPW treatment requirements would be triggered, including analysis of alternatives to a direct discharge to SPW (if applicable), analysis of natural treatment alternatives, and use of Best Demonstrable Technology (BDT) as minimum treatment for a direct discharge (if applicable). If in addition to TDS and temperature, the hypothetical discharge also included parameters used in the demonstration of no measurable change to existing water quality, and if the plant modifications constituted "Substantial Alterations or Additions", then the project sponsor would be required to show no measurable change to existing water quality at the applicable control point.

2.5 DOES THIS RULE PLACE THE LEHIGH VALLEY AT A DISTINCT ECONOMIC COMPETITIVE DISADVANTAGE WITH OTHER REGIONAL, NATIONAL, AND INTERNATIONAL COMMUNITIES?

Please see the responses to 1.27 above and 2.6 below.

2.5A ARE THE COSTS FOR THIS PROGRAM BEING BORNE BY THE ACTUAL GENERATOR OF WATER QUALITY IMPAIRMENTS?

Yes. SPW implementation considers the incremental pollutant loading of each discharge and requires the project sponsor to provide treatment that ensures no measurable change to existing water quality as a result of that discharge. Where multiple discharges may affect a water quality control point, the impact of each individual project is determined and the project sponsor is required to address only that impact.

2.5B IS THERE A MORE EFFECTIVE PROGRAM FOR MAINTAINING THE QUALITY OF THE DELAWARE RIVER FOR ITS MULTIPLE USES?

Please also see the responses at 1.21 through 1.24.

The Special Protection Waters Program has been implemented in the drainage area to the upper and middle portions of the non-tidal Delaware River since 1992 for point sources and since 1994 for non-point sources. Rather than inventing an entirely new program to achieve the same objectives as an existing program, the Commission is extending its SPW program downstream to include the lower portion of the non-tidal Delaware River, in response to documented evidence that this section of the river also possesses water quality, water supply, ecological, scenic and recreational values that merit protection.

2.6 SOME EXCEPTIONS TO THE NO MEASURABLE CHANGE POLICY SHOULD BE ALLOWED SO THAT ECONOMIC VITALITY IS NOT STIFLED.

WILL THE PROPOSED AMENDMENTS STIFLE ECONOMIC RENEWAL AND INVESTMENT BY PUTTING THE RIVER IN A VIRTUAL "OFF LIMITS TO DEVELOPMENT" ZONE, ESPECIALLY FOR RIVERFRONT REDEVELOPMENT PROJECTS?

WILL THESE REGULATIONS SERIOUSLY CONSTRAIN DEVELOPMENT ON TRIBUTARIES?

THIS RULEMAKING WILL HAVE ADVERSE AND WIDESPREAD SOCIOECONOMIC IMPACTS ON SUSTAINABLE GROWTH IN THE DELAWARE RIVER WATERSHED.

THE CONCEPT OF "NO MEASURABLE CHANGE" IN EWQ CARRIES WITH IT AN IMPLICIT CAP ON GROWTH AND DEVELOPMENT, AND CREATES AN IMBALANCE IN REGIONAL VERSUS STATEWIDE COSTS FOR MUNICIPAL WASTEWATER TREATMENT. NMC AND BDT ESSENTIALLY ELIMINATE THE NATURAL ASSIMILATIVE CAPACITY OF A WATER BODY.

COULD THERE BE NEGATIVE IMPACTS TO FUTURE EMPLOYMENT, DUE TO INDUSTRIES NOT LOCATING WHERE DISCHARGE REQUIREMENTS ARE HIGH, BECAUSE OF THIS DESIGNATION?

The Commission has provided flexibility within the regulations sufficient, in its judgment, to balance the need for water quality protection with the need for economic development. These features are described at length in response to comment 1.27.

More briefly,

- The Commission has recognized the importance of allowing discharges approved before the effective date of the designation of the Lower Delaware River as Special Protection Waters to continue. Thus, existing facilities may discharge up to the limits in their NPDES permits effective on the date of SPW designation without triggering the most protective SPW treatment requirements unless or until "Substantial Alterations or Additions" are undertaken for these facilities. At such time the investment-backed expectations of facility owners and operators in their existing plants will likely have been realized, and the cost of implementing SPW treatment requirements will be a marginal cost associated with new capital investment that is otherwise needed.

- Clarifying an important limitation on the rule, the definition of "Substantial Alterations or Additions" states explicitly that modifications made solely to address wet weather flows; and alterations that are limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal are not deemed to be "Substantial Alterations or Additions."

- The Commission's definition of BDT is limited to seven specified parameters for which a variety of proven treatment technologies are available, plus disinfection. BDT applies only to direct discharges to SPW.

- As the amended rule makes clear through the addition of a new subsection 3.10.3A.2.d.9), the demonstration of no measurable change to existing water quality, when applicable, requires a wastewater treatment facility project sponsor to demonstrate no measurable change at the relevant water quality control point only for a limited set of the parameters used to define EWQ. The parameters required to be used in the demonstration of no measurable change are: ammonia (NH_3 N); dissolved oxygen (DO); fecal coliform (FC); nitrate (NO_3 N) or nitrite + nitrate (NO_2 N + NO_3 N); total nitrogen (TN) or total Kjeldahl nitrogen (TKN); total phosphorus (TP); total suspended solids (TSS); and, in the Upper and Middle Delaware reaches only, biological oxygen demand (BOD). These parameters are denoted by asterisks in Tables 1 and 2 of the SPW rules, defining existing water quality.

- Subsection 3.10.3A.2.d.9) also addresses the analytical methods applicants are to use in demonstrating no measurable change to existing water quality. Where a DRBC-approved model is available, an applicant is required to use it. Where a DRBC-approved model is not available, the applicant may use other methodologies submitted to and approved in advance by the Commission to estimate the cumulative effect at the applicable control point. The Commission is committed to using the appropriate analysis for the specific case and to working with applicants to develop the appropriate tools for evaluating their projects. The Commission staff is currently developing water quality models for the Lower Delaware River and the Lehigh River which will assist in evaluating applications.

- As is not uncommon with Commission regulations, the Special Protection Waters regulations provide flexibility to the Basin States that administer NPDES programs in intrastate waters, and the Commission works closely with the States to avoid duplication of effort.

- The SPW policy and regulations providing for no measurable change to existing water quality have been in effect for the upper and middle sections of the main stem Delaware River since their classifications as SPW in 1992, without stifling the economic vitality of those areas.

- The SPW program is designed to protect existing water quality in part by requiring facilities to invest in advanced treatment technologies at the time they expand. In this way, it seeks to avoid the environmental and economic costs of building infrastructure that overburdens the waterway with pollution and only then attempting

to correct the impairment. In return for the added investment, communities within the drainage area to SPW will have the ongoing assurance of high water quality, with accompanying benefits to the region's economy and quality of life.

2.7 MINDFUL OF UNINTENDED CONSEQUENCES OF THIS RULEMAKING THAT MAY ADVERSELY AFFECT WATER QUALITY OF THE DELAWARE ESTUARY, THE COALITION REQUESTS THAT THE COMMISSION PROVIDE A COMPLETE ANALYSIS ON THE POTENTIAL EFFECTS ON GROWTH IN THE ESTUARY THAT MAY RESULT FROM THIS PERMANENT SPW DESIGNATION. THIS RULE MAY DRIVE ADDITIONAL DISCHARGERS AWAY FROM THE LOWER DELAWARE AND TOWARD THE ESTUARY.

The non-tidal Delaware River above Trenton, NJ provides significant freshwater flow to the estuary, diluting pollutants introduced to the estuary by both point and non-point sources. Maintaining the high quality of the non-tidal portion of the river through Special Protection Waters regulations will ensure low background loadings for those pollutants that define existing water quality as well as for other pollutants coincidently reduced as a result of SPW treatment requirements and non-point source control programs.

Any discharger or developer that chooses to relocate and discharge to a tidal portion of the Delaware River will need to comply with requirements for conventional and toxic pollutants, typically based upon water quality criteria. Several regional wastewater treatment systems currently exist in the estuary which may be able to accommodate and effectively treat additional pollutant loads from new sources.

2.8 AN ENORMOUS SUM ($40 MILLION PLUS) OF TAXPAYER MONIES WERE SPENT FOR ONE DISCHARGER IN THE BRODHEAD WATERSHED TO MOVE A DESIRABLE PROJECT FORWARD. IS THIS A VERY UNSETTLING HARBINGER OF THINGS TO COME ON THE LOWER DELAWARE?

The commenter has provided no specific information to support this assertion. The commenter may be confusing the total cost of a project with the *marginal* cost of complying with SPW requirements. Because the additional SPW treatment requirements apply to existing facilities only when they undertake "Substantial Alterations or Additions" as defined by the rule, the cost of compliance will be the marginal cost of applying better treatment technology than might otherwise be used. In return for the added investment, communities within the drainage area to SPW will have the ongoing assurance of high water quality, with accompanying benefits to the region's economy and quality of life.

Notably, modifications made solely to address wet weather flows and alterations that are limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal are not deemed to be "Substantial Alterations or Additions."

2.9 "NO MEASURABLE CHANGE" SHOULD BE EXPLICITLY DEFINED IN THE RULE.

Section 3.10.3A2.a.4) of the approved regulations includes a definition of "measurable change to existing water quality" that is modified from the definition adopted by the Commission in 1992, in order to make it applicable to the Lower Delaware as well as to the Upper and Middle Delaware. The approved definition is set forth below. It is noted that River Mile 209.5, referenced in the definition, is the downstream boundary of the Delaware Water Gap National Recreation Area. SPW waters upstream of and including this point received SPW designation in 1992 and SPW waters below this point received SPW designation in 2005. The water quality strategy used to support the later designation differed from that employed a decade earlier. (A footnote noting this is not shown.) Additions appear in **bold face**; deletions appear in **[bold face type within brackets]**. **Underscore** indicates changes that did not accompany the notice of proposed rulemaking.

> "Measurable Change **to Existing Water Quality**" is defined as an actual or estimated change in a **seasonal or non-seasonal** mean **(for SPW waters upstream of and including River Mile 209.5) or median (for SPW waters downstream of River Mile 209.5) [(annual or seasonal)]** in-stream pollutant concentration that is outside the range of the two-tailed upper and lower 95 percent confidence **[limits] intervals** that define existing water quality. **[In the absence of adequate available data, background concentrations will be assumed to be zero and "measurable change" will be based on in-stream concentrations greater than the detection limit for each parameter, based on the lowest limit of the most sensitive technique specified in 40 CFR Part 136.]**

WQR § 3.10.3A.2.16). (Footnote omitted). DRBC will perform periodic ambient monitoring of the approximately two dozen parameters used to define EWQ to determine if changes to the existing water quality are occurring over time. Revisons to the EWQ values for the Middle and Upper Delaware River are possible after the completion of the Scenic Rivers Monitoring Program in 2012.

The SPW rules have been amended to clarify in a new subsection 3.10.3 A.2.d.9) that for any wastewater treatment project subject to the "no measurable change" requirement, the demonstration of no measurable change to existing water quality will be satisfied by a demonstration that the new or incremental increase in the facility's flow or load will cause no measurable change at the relevant water quality control point for a limited set of parameters: ammonia (NH_3 N); dissolved oxygen (DO); fecal coliform (FC); nitrate (NO_3 N) or nitrite + nitrate (NO_2 N + NO_3 N); total nitrogen (TN) or total Kjeldahl nitrogen (TKN); total phosphorus (TP); total suspended solids (TSS); and, in the Upper and Middle Delaware reaches only, biological oxygen demand (BOD). These parameters

are denoted by asterisks in Tables 1 and 2 of the SPW rules, defining existing water quality.

2.10 DOES THE "NO MEASURABLE CHANGE" POLICY APPLY TO ALL WATER QUALITY PARAMETERS, EVEN THOSE NOT LISTED IN THE RULE?

No. The complete set of parameters for which existing water quality values are established in Tables 1 and 2 of Section 3.10.3A.2. will be periodically monitored by DRBC to determine ambient water quality. The SPW rules have been amended to clarify in a new subsection 3.10.3 A.2.d.9) that for any wastewater treatment project subject to the "no measurable change" requirement, the demonstration of no measurable change to existing water quality shall be satisfied by a demonstration that the new or incremental increase in the facility's flow or load will cause no measurable change at the relevant water quality control point for a limited set of parameters – eight in the Upper and Middle Delaware and seven in the Lower Delaware. For parameters for which no existing water quality values are established by the SPW rule, the applicable DRBC or state criteria will apply. For example, no numeric value for existing water quality is proposed in the SPW regulations for copper. Thus, a discharger to Special Protection Waters will receive a NPDES effluent limit for copper based upon the applicable water quality standard. No additional requirements will be imposed with respect to copper, as a result of Special Protection Waters classification.

2.11 DO DRBC RULES ALLOW FOR ANY DEGRADATION BEYOND A NARROWLY CONFINED MIXING ZONE, FROM DIRECT DISCHARGES OR FROM TRIBUTARIES IF THE INCREASES WOULD HAVE NO IMPACT ON BIOTA OR RIVER USES?

When this comment was submitted to DRBC in 2004, the proposed action to designate the Lower Delaware as Special Protection Waters on an interim basis did not include the adoption of numeric values for existing water quality in the Lower Delaware River. As a consequence, the "no measurable change" requirement of the rule could not be implemented for this section of the river. The rulemaking proposed in 2007 and which the Commission approved, with the addition of clarifying language in July 2008, does include numeric values for existing water quality in the Lower Delaware. Upon the effective date of the Commission's July 16, 2008 action, for any project within the drainage area to SPW, the no measurable change analysis, when required, will entail an evaluation of the effect of a proposed incremental wastewater flow or load on a limited set of seven or eight parameters at a specific water quality control point. No measurable change for that set of parameters will be allowed unless localized degradation (a mixing zone) is approved in waters classified as Significant Resource Waters in accordance with section 3.10.3A.2.b.2). This is so regardless of any effect a discharge might have on the designated use.

2.12 WOULD A PLAN TO PROVIDE FOR REGIONAL TREATMENT, TO BE DISCHARGED IN THE LOWER BRODHEAD WATERSHED, BE IMPACTED BY THE "NO MEASURABLE CHANGE" REQUIREMENT?

Yes. The Brodhead Creek is a tributary to the Middle Delaware Scenic and Recreational River, a section of the river that the Commission classified as Outstanding Basin Waters in 1992. The Commission issued Docket No. D-2006-017 CP-1 on December 12, 2006 to the proposed regional wastewater treatment facility for Pocono Township. In accordance with the SPW regulations, in order to obtain this approval, the applicant was required to demonstrate compliance with the no measurable change requirement at a water quality control point on the Brodhead Creek near the boundary of the Delaware Water Gap National Recreation Area. The docket provides for stricter effluent limitations as nutrient loads from the facility increase, and allows the project sponsor to conduct additional water quality analyses to demonstrate that some relaxation of these requirements may eventually be warranted.

2.13 DO DRBC RULES PROVIDE EXCEPTIONS TO "NO MEASURABLE CHANGE" BASED UPON EVIDENCE OF SOCIAL AND ECONOMIC JUSTIFICATION? SOME EXCEPTIONS TO NMC POLICY SHOULD BE ALLOWED SO THAT ECONOMIC VITALITY IS NOT STIFLED.

DOES A SOCIAL AND ECONOMIC JUSTIFICATION CONSIDER THE NATURE AND DEGREE OF IMPACTS AS WELL AS THE ACTUAL USES OF THE AFFECTED STREAM REACH?

In SPW waters that are classified as Significant Resource Waters, "localized degradation may be allowed for dilution if the Commission, after consultation with the state NPDES permitting agency, finds that the public interest warrants these changes." Sec. 3.10.3A.2.b.2). That section states that the Commission will "require the highest possible point source treatment levels necessary to limit the size and extent of the mixing zones" and further provides that the "dimensions of the mixing zone will be determined by the Commission after consultation with the state NPDES permitting agency based upon an evaluation of (a) site-specific conditions, including channel characteristics; (b) the cost and feasibility of treatment technologies; and (c) the design of the discharge structure. Mixing zones will be developed using the wastewater treatment facility design conditions and low ambient flow conditions unless site-specific characteristics indicate otherwise."

The regulation at sec. 3.10.3A.2.a.5) defines "public interest" as

> a determination of all the positive and negative social, economic and water resource impacts associated with a project affecting a Significant Resource Water. A project that is in the public interest is one that, at a minimum, provides housing, employment, and/or public facilities needed to accommodate the adopted future population, land use, and other goals of a community and region without causing deleterious impacts on the local and regional environment and economy. In general, such a project

would be one that conforms to a locally-adopted growth management plan which is undergoing active implementation by local officials, is supported by the larger community as a whole, and is compatible with national, state and regional objectives as well. For a project not fully meeting the above criteria, the Commission will weigh the positive and negative impacts to determine public interest.

In Outstanding Basin Waters, no localized degradation is allowed.

2.14 SHOULD DRBC MODIFY ITS REGULATIONS TO ALLOW FOR A SOCIAL AND ECONOMIC JUSTIFICATION EXCEPTION TO "NO MEASURABLE CHANGE" BEYOND MIXING ZONES AND WHERE A TRIBUTARY ENTERS THE DELAWARE?

The Commission does not believe that a modification of its regulations to allow for a social and economic justification beyond mixing zones would be consistent with the Commission's policy that "there be no measurable change in existing water quality except toward natural conditions in waters considered by the Commission to have exceptionally high scenic, recreational, ecological, and/or water supply values." Sec. 3.10.3A.2.

DRBC's Water Quality Regulations do not preclude the use of a mixing zone in Significant Resource Waters where the discharge is located on a tributary, provided that the discharger demonstrates that requiring it to satisfy the no measurable change requirement at a control point located on the tributary is not in the public interest. As amended, Section 3.10.3A.2.b.2. makes clear that the Commission may allow localized degradation of water quality for initial dilution purposes for discharges made either directly to SRW or to tributaries to SRW, provided that all the conditions regarding mixing zones are satisfied.

2.15 ABSOLUTE NUMERICAL CONCENTRATION LIMITS WILL NOT ACHIEVE "NO MEASURABLE CHANGE" BECAUSE A) REDUCTION OF INFLOW MAY INCREASE CONCENTRATIONS WHILE LOADINGS REMAIN UNCHANGED OR DECREASE, B) INCREASES IN THE USE OF GROUNDWATER INFILTRATION BMPS MAY AUGMENT STREAM FLOW, AND C) INCREASES IN CONCENTRATION OR LOADING MAY BE NEEDED WHEN INTERCEPTING "WILDCAT" SEWER DISCHARGES OR TAKING ON PREVIOUSLY UN-SEWERED AREAS WITH FAILING SEPTIC SYSTEMS.

The Commission recognizes that the concentration and mass pollutant loading of a discharge as well as the rate of flow in the receiving stream can affect water quality in the stream. The methods used by the Commission in establishing values for existing water quality and the methods employed to detect the impact of a new discharge or substantial alterations or additions to an existing discharge are designed to correct for these variables. Thus, for purposes of a no measurable change analysis streamflow is always

assumed to be the mean harmonic flow. The "Substantial Alterations or Additions" that trigger the requirement for an existing facility to demonstrate no measurable change may consist of *either* an increased flow *or* increased loading not included in the NPDES permit or docket in effect at the time of SPW designation. In the application of Best Demonstrable Technology for direct discharges to SPW, BDT constitutes the *minimum* level of wastewater treatment required for these discharges, which also must demonstrate no measurable change to existing water quality. A discharge may require additional treatment, rely on non-discharge or load reduction alternatives, and/or provide offsets to satisfy the "no measurable change" requirement.

The Commission does not wish to discourage the re-direction of untreated sewer flows or failing septic system flows through an existing wastewater treatment facility. Thus, the definition of "Substantial Alterations or Additions" to an existing facility expressly provides that "modifications made solely to address wet weather flows" will not be deemed "Substantial Alterations or Additions." The no measurable change requirement will eventually be triggered for the facility if and when it undertakes a complete upgrade or modernization or if at a later date it expands beyond the NPDES-permitted flow and/or load included in the NPDES permit or docket in effect on the date of SPW designation (December 9, 1992 for the Upper and Middle Delaware and January 19, 2005 for the Lower Delaware).

The extent to which increased use of BMPs for groundwater infiltration will result in augmented streamflows is unknown. Non-point source pollution control requirements are included in the SPW program to help prevent measurable change as a result of non-point source loadings.

2.16 THE DEFINITION OF NMC, DEFINING A LOWER 95% CONFIDENCE LIMIT WOULD PREVENT A FACILITY FROM REDUCING POLLUTANT LOADINGS, BECAUSE THAT WOULD BE A PROHIBITED "CHANGE" (ALBEIT A REDUCTION). CLEARLY THIS IS NOT THE INTENDED REGULATORY EFFECT.

The Commission recognizes that requiring wastewater treatment facility owners and operators to institute more protective treatment methods when they undertake an upgrade or expansion may increase the cost of such projects. However, the application of the rule to existing facilities has been tailored to minimize the likelihood that needed improvements will be delayed and to allow facility owners/operators time to plan for them.

First, existing facilities are not subject to the most protective SPW requirements – analysis of alternatives to a direct discharge to SPW (if applicable), natural treatment alternatives, Best Demonstrable Technology (BDT) as minimum treatment for direct discharges, and the demonstration of no measurable change to existing water quality (NMC) – unless and until they undertake "Substantial Alterations or Additions" as defined by the amended rule. The definition of "Substantial Alterations or Additions", which is reprinted below, makes clear that the requirements accompany only a "complete

upgrade or modernization", whether in a single phase or in phases, or "a new load or increased flow or loading . . . not included in a NPDES permit or docket effective on the date of SPW designation." In other words, the requirements are likely to be triggered only when a major new capital investment is being made, either because new development is anticipated to be served by the facility or because the existing infrastructure is near the end of its useful life. Moreover, the Commission has added language to clarify that certain types of upgrades will not be deemed "Substantial Alterations or Additions". These upgrades include "modifications made solely to address wet weather flows; and alterations that are limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal."

The Commonwealth of Pennsylvania has also made funds available to municipalities required to upgrade their treatment facilities as a result of the SPW regulations. In a letter dated July 16, 2008 (the day of the Commission's action) to the mayors of Pennsylvania towns and cities with wastewater treatment facilities located in the drainage area to Lower Delaware Special Protection Waters, Governor Edward G. Rendell of Pennsylvania wrote:

> I expect that in the future this designation may require that, should you expand your waste treatment facilities or see expanded use of existing facilities, upgrades may be necessary to treat the effluent in order to meet the standards of this important river protection designation. As you know, last week I signed into law up to $1.2 billion in new funding for the upgrade of water and waste water treatment facilities. These bills specifically state that funds should be made available to water and waste water systems that are upgrading their treatment systems to meet new regulations. As such, if you are required to make improvements due to this designation you would be eligible to receive some funding in the form of grants and loans to complete the upgrades.

Letter from Edward G. Rendell to Mayor John B. Callahan, City of Bethlehem, dated July 16, 2008, p. 2.

It is also noted that to the extent the rules result in *improvements* to existing water quality, this outcome is expected and desired. The policy of the Commission set forth at Section 3.10.3A.2 of the regulations is "that there be no measurable change in existing water quality *except toward natural conditions* in waters considered by the Commission to have exceptionally high scenic, recreational, ecological and/or water supply values." (Emphasis added). "Natural Condition" is defined in the rule as "the ecological state of a water body that represents conditions without human influence." WQR § 3.10.3A.2.a.7).

2.17 LACKING A GUIDANCE DOCUMENT, THE FOLLOWING NMC QUESTIONS ARE UNANSWERABLE. WHAT ARE THE IMPLICATIONS FOR ALLENTOWN, BETHLEHEM, EASTON AND CATASAUQUA TREATMENT PLANTS? WHAT STREAM FLOWS WILL BE ASSUMED FOR THE ANALYSIS? WILL ADDITIONAL EFFLUENT SAMPLING BE REQUIRED FOR CONSTITUENTS NOT

CURRENTLY MONITORED? MANY EXISTING TREATMENT FACILITIES DO NOT MONITOR NITRATE, TKN OR TOTAL PHOSPHORUS. AS THESE ARE INDICATED AS RELEVANT TO NMC ANALYSIS, HOW CAN A NMC DEMONSTRATION BE MADE WITHOUT EFFLUENT CHARACTERIZATION DATA? HOW EXACTLY WILL PERMITTED LOADS BE CHARACTERIZED?

The Commission does not agree with the comment. The SPW program has been in place for the Upper and Middle Delaware River since 1992 and the Commission has approved multiple dockets that, collectively, illustrate a range of methods for demonstrating compliance with the no measurable change requirement. In addition, the Commission has added a new section 3.10.3A.2.d.9) to the regulations to clarify within the text of the rule how the demonstration of "no measurable change to existing water quality" (NMC) is to be satisfied in instances where this demonstration is required. Because some interested parties did not at first realize that the NMC demonstration is limited to a set of parameters denoted by asterisks in Tables 1 and 2 of the regulation, the new section 3.10.3A.2.d.9) lists these parameters. They are: ammonia (NH_3 N); dissolved oxygen (DO); fecal coliform (FC); nitrate (NO_3 N) or nitrite + nitrate (NO_2 N + NO_3 N); total nitrogen (TN) or total Kjeldahl nitrogen (TKN); total phosphorus (TP); total suspended solids (TSS); and, within the upper and middle sections of the Delaware River (above the Delaware Water Gap) only, biological oxygen demand (BOD).

The methodologies available to demonstrate NMC are similar to those employed to demonstrate compliance with conventional water quality criteria and designated uses. The Commission has accepted analyses ranging from a relatively simple "hold the load" demonstration (showing that loadings will remain equal to or lower than those occurring at the time of SPW designation), to dilution computations, to more sophisticated mathematical models that simulate the transport and fate processes that may act on the parameters to be analyzed.

New section 3.10.3A.2.d.9) provides that where a DRBC-approved model is available, an applicant is required to use it. Where a DRBC-approved model is not available, the applicant may use another methodology submitted to and approved in advance by the Commission to estimate the cumulative effect at the applicable control point. The Commission is committed to using the appropriate analysis for the specific case and to working with applicants to develop the appropriate tools for evaluating their projects. The Commission recognizes that in certain cases where multiple discharges contribute to a common watershed or stream or river segment, a more complex cumulative analysis may be needed to determine the requirements for achieving no measurable change. The Commission staff is currently developing water quality models for the Lower Delaware River and the Lehigh River which will assist in evaluating applications.

The Commission believes that most tributary dischargers will be able to conduct the no measurable change analysis without the need for sophisticated modeling of cumulative effects. In the absence of Commission-developed or approved models, the Commission staff will work with the dischargers in the Lehigh River and other watersheds to develop

and conduct protective NMC analyses, using techniques commensurate with the anticipated effects of the discharge. Such techniques may be required to include a factor of safety or the use of more conservative assumptions to protect EWQ, since these less sophisticated analyses may underestimate the impact of an increased load or flow on existing water quality in the designated waters. In determining the degree of analysis and the factor of safety, the Commission will consider the size and scope of the requested new or increased flow or load relative to the current flow or load, the distance to the applicable Water Quality Control Point, the number of discharges in the watershed or stream segment that would need to be considered, the potential for these discharges to reach their permitted load, and the potential and timing for these discharges to require substantial alterations or additions or increased flows or loads. Although the Commission staff will work with the applicant, the applicant at all times will retain the burden of demonstrating no measurable change.

Design wastewater treatment plant loadings are usually not reached for several years after new or expanding loads are proposed. Thus, decreases or increases to assigned permit and/or docket limits may be made if an approved model later demonstrates that initially assigned loads/effluent limits are either too conservative, or would result in a measurable change.

The Commission recognizes that all existing treatment facilities do not monitor nitrate, TKN or total phosphorus. As it has done in the case of discharges in the Upper and Middle Delaware River drainage areas, where effluent data for a given parameter for a particular facility is lacking, the Commission will rely on data from treatment plants of similar design and actual flow. However, treatment facilities may want to collect effluent information from their own facility.

Again, the Commission is committed to using the appropriate analysis for the specific case. Past approvals furnish an excellent record for new and expanding dischargers to rely upon.

2.18 SINCE THE DEFINITION OF EWQ FAILS TO ACCOUNT FOR EXISTING PERMITTED LOADS, IT IS LIKELY FOR LARGE WATERSHEDS THAT EXISTING FACILITIES WILL CAUSE A MEASURABLE CHANGE IN EWQ SIMPLY BY DISCHARGING WHAT THEY ARE PERMITTED TO DISCHARGE. DRBC MUST MODIFY THE MANNER IN WHICH IT IMPLEMENTS NMC TO ACCOUNT FOR THIS.

An existing wastewater treatment facility will not be subject to the most protective treatment requirements of the Special Protection Waters regulations, including the "no measurable change" requirement, as long as the facility makes no "Substantial Alterations or Additions" as defined by the rule. Until substantial alterations or additions are undertaken, such a facility will be required, upon its next NPDES permit renewal, to comply only with the requirements for standby power facilities, remote alarms, no visual discharge plumes (in Outstanding Basin Waters) and emergency management plans. This

approach respects the owner's/operator's investment and commitments to customers within its service area.

However, when the more protective treatment requirements of the rule are triggered by an upgrade or expansion that constitutes "Substantial Alterations or Additions", the project sponsor must demonstrate, among other things, that the incremental increase in the facility's flow or load will cause no measurable change to existing water quality. The amended rule clarifies that by "incremental increase," the Commission means the flow or load that is greater than the actual load – *not the permitted load* – discharged by the facility at the time of SPW designation. *See* sec. 3.10.3A.2.a.18).

Thus, only the actual load at the time of SPW designation is grandfathered indefinitely under the program. Any load above that actually discharged at the time of SPW designation becomes subject to all applicable requirements set forth at Section 3.10.3A2.d.9) if and when "Substantial Alterations or Additions" as defined by the rule are proposed. The requirements triggered by "Substantial Alterations or Additions" to an existing facility include among others the requirement that the project result in no measurable change in existing water quality as defined by the rule (except toward natural conditions) at the applicable water quality control point. This approach is intended to prevent the result the commenter describes, in which existing facilities that are discharging at levels below their permitted loads cause a measurable change in existing water quality simply by increasing their loads within (or up to) their permitted capacity. Although increases up to a facility's permitted capacity may temporarily diminish water quality, such conditions will be corrected when Substantial Alterations or Additions are made.

EXISTING FACILITIES

2.19 IS IT DRBC'S INTENT TO GRANDFATHER, OR TO ALLOW STATE NPDES PROGRAMS TO GRANDFATHER, EXISTING NPDES PERMITTED POINT SOURCE DISCHARGERS FROM THE UPGRADED DESIGNATION?

THE PROPOSED RULE LACKS SPECIFICITY IN DEFINING THE IMPACTS THAT IT MAY HAVE ON NEW, EXPANDING OR EXISTING DISCHARGES.

The SPW program permanently exempts from the most protective treatment requirements the actual load being discharged at the time of SPW designation. When "Substantial Alterations or Additions" as defined by the SPW rule are proposed, although the actual load discharged at the time of SPW designation remains exempt from new treatment requirements, the proposed project cannot be approved until (1) all non-discharge/load reduction alternatives for the incremental load have been fully evaluated and rejected because of technical or financial infeasibility (for discharges directly to SPW); (2) the applicant has demonstrated the technical and/or financial infeasibility of using natural wastewater treatment technologies for all or a portion of the incremental load; (3) the Commission has determined that the project is demonstrably in the public interest (if a

mixing zone in SRW or a discharge directly to SRW is proposed); (4) the minimum level of treatment to be provided for the incremental discharge is Best Demonstrable Technology as defined by the rule (for discharges directly to SPW); and (5) the project will cause no measurable change to EWQ as defined by the rule at established water quality control points. This approach is designed to achieve the SPW program objective of no measurable change to existing water quality and simultaneously protect the investment-backed expectations of existing wastewater treatment facility owners and operators.

2.20 IT IS ESSENTIAL THAT EXISTING PERMITTED FLOWS AND LOADS BE INCLUDED IN THE DEFINITION OF EWQ. IF IT IS SHOWN THAT CURRENTLY PERMITTED LOADS WOULD CAUSE A VIOLATION OF WATER QUALITY CRITERIA, THEN REMEDIAL ACTION SUCH AS A TMDL WOULD BE THE APPROPRIATE REGULATORY ACTION.

The SPW program is an anti-degradation program. In contrast with water quality standards programs, which protect designated uses, anti-degradation programs like the SPW program are designed to preserve existing water quality that is substantively better than necessary to protect the designated uses. Existing water quality for the Lower Delaware, as set forth in Table 2 of the approved amendments, reflects the actual loads discharged during the period from 2000 through 2004 when the samples upon which EWQ values are based were collected. Because NPDES permits generally include loads based upon design flows, they tend to allow much higher loads than are actually discharged. Allowing discharges to increase up to these levels would be to abandon the SPW program objective of "no measurable change in existing water quality except toward natural conditions in waters considered by the Commission to have exceptionally high scenic, recreational, ecological, and/or water supply values" ("the no measurable change objective") See WQR § 3.10.3A.2.

In order to achieve the no measurable change objective, the regulations require that for any load in excess of that actually discharged at the time of SPW designation (i.e. at the time EWQ was defined), project sponsors need to demonstrate that the introduction of these new flows and loads will not result in a measurable change to existing water quality.

EPA and state NDPES authorities use TMDLs to restore water quality in impaired waters – streams in which water quality is no longer adequate to protect existing or designated uses. TMDLs can be more costly in the long run than anti-degradation measures that prevent impairment. A TMDL assigns each point source discharger a wasteload allocation that is not to be exceeded. That wasteload allocation may not be achievable without costly additional treatment – treatment that must potentially be added *after* a facility owner or operator has invested in expansion. The SPW program is designed to protect existing water quality in part by requiring facilities to invest in protective treatment technologies at the time they expand. In this way, it seeks to avoid

the environmental and economic costs of building infrastructure that overburdens the waterway with pollution and only then attempting to correct the impairment.

2.21 IT IS NOT CLEAR WHY SIMPLY UPDATING AN EXISTING FACILITY TRIGGERS A CONCLUSION THAT A MEASURABLE DEGRADATION IS OCCURRING. THE TWO ISSUES ARE NOT OBVIOUSLY CONNECTED, AS AN ALTERATION IN AND OF ITSELF WOULD HAVE MINIMAL EFFECT UPON EWQ. ONLY EXPANSIONS SHOULD TRIGGER APPLICATION OF ANTIDEGRADATION REQUIREMENTS.

Please also see the preceding responses in this section.

The SPW regulations are not premised on the assumption that updating an existing facility automatically results in degradation. SPW is an anti-degradation program. It is intended to require project sponsors to invest in more protective treatment technologies (or treatment alternatives) at the time when they are otherwise investing in a "complete upgrade or modernization," in order to achieve the program objective of "no measurable change in existing water quality except toward natural conditions in waters considered by the Commission to have exceptionally high scenic, recreational, ecological, and/or water supply values" ("the no measurable change objective") Sec. 3.10.3A.2.

2.22 THE PROPOSED CHANGES WILL IN FACT UNDERMINE DRBC WATER QUALITY GOALS, BY DISCOURAGING NEEDED IMPROVEMENTS TO WASTEWATER TREATMENT AND BY PENALIZING TREATMENT PLANTS THAT INVEST IN BETTER TECHNOLOGY AND EQUIPMENT. [CLARIFICATION LANGUAGE IS SUGGESTED BY COMMENTER.]

The Commission recognizes that requiring wastewater treatment facility owners and operators to institute more protective treatment methods when they undertake an upgrade or expansion may add to the cost of such projects. However, the application of the rule to existing facilities has been tailored to minimize the likelihood that needed improvements will be delayed and to allow facility owners/operators time to plan for them.

First, existing facilities are not subject to the most protective SPW requirements – analysis of alternatives to a direct discharge to SPW (if applicable), analysis of natural treatment alternatives, Best Demonstrable Technology (BDT) as minimum treatment for direct discharges, and no measurable change to existing water quality (NMC) – unless and until they undertake "Substantial Alterations or Additions" as defined by the amended rule. Second, these requirements apply only to the incremental load – that is, the load in excess of that actually discharged at the time of SPW designation. Third, the definition of "Substantial Alterations or Additions" makes clear that the requirements accompany only a "complete upgrade or modernization", whether in a single phase or in phases, or "a new load or increased flow or loading . . . not included in a NPDES permit or docket effective on the date of SPW designation." In other words, the requirements are likely to be triggered only when a major new capital investment is being made, either

because new development is anticipated to be served by the facility or because the existing infrastructure is near the end of its useful life. This is because the Commission recognizes that existing plants represent an investment and commitment to customers within the plant's service area.

In addition, the Commission has added language to reassure dischargers that certain types of upgrades will not be deemed "Substantial Alterations or Additions". These upgrades include "modifications made solely to address wet weather flows; and alterations that are limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal."

Within the Commonwealth of Pennsylvania, Governor Rendell has announced the availability of funds for municipalities required to upgrade their treatment facilities, including as a result of the SPW regulations. In a letter dated July 16, 2008 (the day of the Commission's action) to the mayors of Pennsylvania towns and cities with wastewater treatment facilities located in the drainage area to Lower Delaware Special Protection Waters, Governor Rendell wrote:

> I expect that in the future this designation may require that, should you expand your waste treatment facilities or see expanded use of existing facilities, upgrades may be necessary to treat the effluent in order to meet the standards of this important river protection designation. As you know, last week I signed into law up to $1.2 billion in new funding for the upgrade of water and waste water treatment facilities. These bills specifically state that funds should be made available to water and waste water systems that are upgrading their treatment systems to meet new regulations. As such, if you are required to make improvements due to this designation you would be eligible to receive some funding in the form of grants and loans to complete the upgrades.

Letter from Edward G. Rendell to Mayor John B. Callahan, City of Bethlehem, dated July 16, 2008, p. 2.

The definition of "Substantial Alterations or Additions" is reprinted below:

> "Substantial Alterations or Additions" are those additions and alterations resulting in: (a) a complete upgrade or modernization of an existing wastewater treatment plant, including substantial replacement or rehabilitation of the existing wastewater treatment process or major physical structures such as headworks, settling tanks, and biological/chemical treatment [or] and filtration tanks, whether conducted as a single phase or a multi-phased project or related projects; or (b) a new load or increased flow or loading from an existing facility that was not included in a NPDES permit or docket effective on the date of SPW designation. Among other projects, modifications made solely to address wet weather flows; and alterations that are limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal are not deemed to be "Substantial Alterations or Additions."

It is also noted that to the extent the rules result in *improvements* to existing water quality, this outcome is expected and desired. The policy of the Commission set forth at Section 3.10.3A.2 of the regulations is "that there be no measurable change in existing water quality *except toward natural conditions* in waters considered by the Commission to have exceptionally high scenic, recreational, ecological and/or water supply values." (Emphasis added). "Natural Condition" is defined in the rule as "the ecological state of a water body that represents conditions without human influence." WQR § 3.10.3A.2.a.7).

2.23 IT IS NOT APPARENT WHETHER A PLANT EXPANSION TO TREAT GREATER WET WEATHER FLOWS, PREVIOUSLY DISCHARGED WITHOUT TREATMENT, WOULD TRIGGER ANTIDEGRADATION PROVISIONS. DRBC SHOULD SPECIFICALLY CLARIFY THAT THIS ENVIRONMENTALLY BENEFICIAL SITUATION DOES NOT TRIGGER SPW CONSIDERATIONS.

The Commission agrees that treatment plant modifications made to treat wet weather flows previously discharged without treatment are desirable because they will reduce pollutant loads to the receiving stream. The Commission has addressed this concern by expressly providing that such modifications on their own will not be considered "Substantial Alterations or Additions" triggering the more protective SPW treatment requirements listed in Section 3.10.3A.2.d.8) of the amended rule – analysis of no-discharge/load reduction alternatives for direct discharges to SPW; natural treatment alternatives for discharges within the drainage area of SPW; BDT as the minimum treatment for direct discharges; and a demonstration that the proposed incremental discharge will result in no measurable change to existing water quality at the applicable water quality control point.

It is noted that in some instances, modifications to a plant for treatment of increased wet weather flows may take the form of a "re-rate" of the plant's treatment capacity. If such a re-rate is undertaken solely to treat wet weather flows, then regardless of whether it involves physical modifications to the plant and/or increases in the flow and/or load in excess of those allowed in the NPDES permit or docket in effect on the date of SPW designation, the re-rate will not be deemed to constitute "Substantial Alterations or Additions". If, on the other hand, the re-rate involves additional flows other than wet weather flows, and if the resulting flows and/or loads exceed those included in a permit in effect on the date of SPW designation, then the re-rate will constitute "Substantial Alterations or additions."

The requirements for standby power, remote alarms, emergency management plans and non-point source pollution control will in all cases apply at the time of the next permit renewal following SPW designation.

2.24 THIS RULE MAKING DIVESTS DISCHARGERS OF APPROVED PERMITS AND OVERTURNS DESIGN FLOWS AND POLLUTANT LOADINGS WITHOUT DUE PROCESS.

IT APPEARS THAT THE DRBC IS PLANNING SOME FUTURE "CAPPING" OF EXISTING DISCHARGES AT LEVELS THAT MAY BE LOWER THAN CURRENT RATES AND MUCH LOWER THAN PERMITTED RATES. IF THIS IS THE PLAN, THEN IT SHOULD BE EXPLICITLY STATED IN THE RULE, AND THE IMPACTS SHOULD BE THOROUGHLY VETTED AND DISCLOSED.

In order to allow facility owners and operators to realize their investment-backed expectations relating to existing plants, the SPW program allows these facilities to increase discharges up to their permitted flows and/or loads *until* "Substantial Alterations or Additions" are undertaken. "Substantial Alterations or Additions" are clearly defined in relevant part by the rule as either "a complete upgrade or modernization" or "a new load or increased flow or loading . . . that was not included in a NPDES permit or docket effective at the time of SPW designation." Modifications made solely to address wet weather flows; and alterations that are limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal are not deemed to be "Substantial Alterations or Additions." Only when "Substantial Alterations or Additions" are undertaken does an existing facility become subject to additional requirements applicable to the incremental load, which is defined as the load in excess of the actual load discharged at the time of SPW designation. The additional requirements include analysis of no-discharge/load reduction alternatives to a direct discharge to SPW, analysis of natural treatment alternatives, use of BDT as the minimum treatment for direct discharges, and a demonstration that the incremental load will result in no measurable change to existing water quality.

The Commission defined existing water quality for the Upper and Middle Delaware in 1992 and has established existing water quality for the Lower Delaware through the amendments approved on July 16, 2008. Existing water quality for the Lower Delaware River is based on a statistical analysis of in-stream water quality sampling collected in 2000-2004. The Lower Delaware River was designated as SPW in January of 2005 following a duly noticed public hearing and a written comment period.

The proposed changes to the SPW regulations, including amendments to establish numeric values for existing water quality in the Lower Delaware River, were subject to extensive notice and public comment as set forth in detail in response to 1.26 above. Commission decisions, whether they be changes to regulations (rulemakings) or docket approvals (adjudications) are subject to public notice and a public hearing and can be appealed in accordance with the *Delaware River Basin Compact* and the Commission's *Rules of Practice and Procedure.*

2.25 THE "CASE-BY-CASE" APPROACH FOR INDUSTRIAL DISCHARGERS POSES A CONSIDERABLE LEVEL OF ECONOMIC UNCERTAINTY FOR INDUSTRIES. IN SETTING BASELINES FOR FUTURE CHANGE, THE PLAYING FIELD MUST BE MORE LEVEL AND A MORE FAIR SYSTEM OF LOAD ALLOCATIONS SHOULD BE ESTABLISHED.

Since the SPW regulations applicable to point sources were adopted by the Commission in 1992, the provision establishing a minimum level of waste treatment defining "Best Demonstrable Technology" has provided that "[e]quivalent effluent criteria for industrial facilities and seasonal limits, if any, will be developed on a "case by case" basis." The requirement, set forth at WQR § 3.10.3A.2.d.6) of the amended rule, applies only to new and expanding wastewater treatment projects discharging directly to SPW (generally limited to the main-stem Delaware River).

In light of the limited number of direct industrial discharges to SPW the Commission chose when it instituted the program to be guided by the appropriate U.S. EPA definition of BDT in each case rather than to develop a new set of SPW-specific definitions. The Commission will continue this approach. It is noted that for purposes of the SPW program, BDT consists of a set of minimum treatment requirements for six parameters plus disinfection. Additional treatment may be required for a project sponsor to make the necessary demonstration of no measurable change to existing water quality.

2.26 HOW WILL THESE RULES AFFECT USE OF NPDES "GENERAL PERMITS" FOR STORMWATER IN THE WATERSHED?

The requirement for a non-point source pollution control plan (NPSPCP) for reviewable projects located within the drainage area of Special Protection Waters is set forth at Section 3.10.3A.2.e of the Water Quality Regulations. To satisfy the requirement, a plan must address non-point source pollution during both the construction and post-construction phases of the project. An erosion and sediment control plan (ESCP) approved by the County Conservation District, along with a post-construction stormwater management plan (PCSMP) will be deemed to satisfy the Commission's NPSPCP requirement. The Commission has approved numerous NPSPCPs consistent with this approach in the Upper and Middle Delaware SPW drainage area since 1994 and several in the Lower Delaware SPW drainage area since that area received temporary SPW status in 2005.

For many project applicants located in Pennsylvania, a new service area associated with a project will require a General NPDES stormwater permit if the service area is located in a warm water fishery (WWF) or cold water fishery (CWF) watershed, and an individual NPDES stormwater permit if the service area is located in a "high quality" (HQ) or "exceptional value" (EV) watershed and the project entails earth disturbance of over one acre. In New Jersey, a General NPDES stormwater permit is required for projects disturbing more than one acre or involving an increase in impervious cover of more than 0.25 acres (10,890 square feet). For projects located in New York, a General NPDES stormwater permit is required for projects disturbing more than five acres, unless the project is located in a TMDL watershed, in which case the earth disturbance threshold is one acre. If a project requires a General NPDES stormwater permit from the State agency (PADEP, NJDEP or NYSDEC), the applicant is required to submit a post-construction stormwater management plan (PCSMP) consistent with the state model ordinance requirements (see below) as part of their General NPDES stormwater application.

The Commission accepts PCSMP's that conform to the following guidance in the respective states:

Pennsylvania

1) PADEP's Erosion and Sediment Pollution Control Program Manual (March 2000); and

2) PADEP's draft Pennsylvania Model Stormwater Management Ordinance (2006).

New Jersey

1) NJ State Soil Conservation Committee's Standards for Soil Erosion and Sediment Control in New Jersey (July 1999); and

2) New Jersey Stormwater Best Management Practices Manual, Appendix D - Model Stormwater Control Ordinance for Municipalities (April 2004).

New York

1) New York State Standards and Specifications for Erosion and Sediment Control (August 2005), published by the Empire State Chapter of the Soil and Water Conservation Society; and

2) a Stormwater Pollution Prevention Plan (SWPPP) that includes water quality and water quantity controls consistent with the New York State Stormwater Management Design Manual (August 2003).

2.27 AS DRBC HAS NOT SHOWN THAT PERMITTED CONDITIONS WILL FAIL TO REASONABLY MAINTAIN HIGH QUALITY WATERS, DRBC SHOULD GRANDFATHER THE CURRENTLY AUTHORIZED FLOWS AND LOADINGS SET FORTH IN NPDES PERMITS.

The approach recommended by the commenter would not protect existing high water quality. The objective of the SPW program as set forth in the regulations is to ensure "no measurable change in existing water quality except towards natural conditions in waters considered by the Commission to have exceptionally high scenic, recreational, ecological and/or high water supply values." Anti-degradation such as the SPW program are more protective than water quality programs designed merely to protect designated uses. The SPW program is designed to protect existing water quality in waters characterized by water quality that is substantively better than that necessary to protect designated uses. Actual pollutant loads being discharged into SPW waters at the time existing water quality was measured for purposes of establishing the values in Tables 1 and 2 were accounted for in the values assigned by those tables. It is necessary for project sponsors to demonstrate that incremental increases to existing loads or new loads discharged into SPW waters after the existing water quality values were established will not result in a measurable change to existing high water quality.

2.28 THERE IS NO INFORMATION IN THE RULEMAKING RECORD SHOWING THAT REASONABLE AND PRACTICAL OPTIONS EXIST TO MEET TREATMENT PLANT PERFORMANCE LEVELS BELOW EXISTING PERFORMANCE UNDER FUTURE FLOWS.

The requirement that expanding wastewater treatment facilities cause no measurable change to existing water quality has been in effect for the Upper and Middle Delaware SPW since 1992. Since then, numerous project sponsors have demonstrated that they can meet the requirement. In order to allow facility owners and operators to realize their investment-backed expectations relating to existing plants and permits, the SPW program allows these facilities to increase discharges up to their permitted flows and/or loads *until* "Substantial Alterations or Additions" are undertaken. "Substantial Alterations or Additions" are clearly defined in relevant part by the rule as either "a complete upgrade or modernization" or "a new load or increased flow or loading . . . that was not included in a NPDES permit or docket effective at the time of SPW designation." Modifications made solely to address wet weather flows; and alterations that are limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal are not deemed to be "Substantial Alterations or Additions." Only when "Substantial Alterations or Additions" are undertaken does an existing facility become subject to additional requirements applicable to the incremental load, which is defined as the load in excess of the actual load discharged at the time of SPW designation.

Thus, an existing NPDES-permitted wastewater treatment facility will not be subject to the most protective SPW point source controls as long as the facility continues to discharge within its NPDES-permitted capacity and does not undertake "a complete upgrade or modernization". In general, an existing facility will be subject only to the requirements relating to standby power facilities, remote alarms, visual discharge plumes (in Outstanding Basin Waters only) and emergency management plans, upon the next renewal of its NPDES permit. The definition of "Substantial Alterations or Additions" protects the investment-backed expectations of project sponsors and their commitments to their customers.

III. Water Quality - Technical Issues

REPRESENTATIVE MONITORING & EXISTING WATER QUALITY

3.1 WATER QUALITY MONITORING DOES NOT ADEQUATELY REPRESENT THE RIVER SINCE SAMPLING LOCATIONS ARE TYPICALLY UPSTREAM OF MAJOR SOURCES OF POLLUTANTS, INCLUDING DEVELOPED AREAS AND TRIBUTARIES USED FOR DISPOSAL OF TREATED WASTEWATER.

Also see response to 1.10 above.

Obtaining sufficient data to define existing water quality in the 75-mile Lower Delaware section of the main stem was the primary objective in selecting a monitoring strategy. The control point approach was chosen as best capable of representing water quality conditions. Accessibility and sampling safety were the key constraints. Thus, sampling locations were selected at bridge crossings that provide reasonable spacing between sampling points. None of the points are located in the immediate downstream area of discharges, where samples would represent the quality of mixing zones rather than the overall quality of the reach in question. That sampling locations are not directly downstream of discharge pipes does not mean wastewater is not a component of the samples. Streamflows at each point – and the samples collected and analyzed to measure existing water quality – include a blend of assimilated wastewater, natural water, reservoir water, and storm water. The effect of wastewater discharges upstream of sampling locations is reflected in the water quality of the samples. Chemical and biological monitoring was conducted in downstream areas of the Lower Delaware as well as in upstream areas. Monitoring points both upstream and downstream of every major discharge and tributary were used. Appendix C of the technical report *Lower Delaware Monitoring Program: 2000-2003 Results and Water Quality Management Recommendations* (DRBC August 2004) indicate excellent water quality at all locations.

By way of example, in the vicinity of Milford Borough and Alexandria Township, Hunterdon County, NJ, there are control points established both upstream (at Milford Bridge) and downstream (at Bulls Island). The Milford Interstate Control Point (ICP) receives all waters upstream of Milford, and the Bulls Island ICP receives these plus all new tributary and direct inputs to the reach that is immediately downstream of Milford. The reach between Milford and Bulls Island receives treated wastewater and collects drainage from numerous tributaries. Similar examples can be provided for many other reaches of the river.

3.2 DISCHARGERS SHOULD BE REQUIRED TO ESTABLISH EWQ RATHER THAN USE A DEFAULT VALUE OF ZERO (WHICH IS NOT SUPPORTED BY SOUND SCIENCE OR EXISTING DATA) WHERE NUMERIC TARGETS ARE NOT ADOPTED.

The SPW regulations as amended by the Commission on July 16, 2008, provide the following definition of “Existing Water Quality”:

> "Existing Water Quality" for purposes of the Special Protection Waters program is defined for a limited set of parameters, consisting of those listed in Tables 1 and 2. Existing water quality is defined in Table 1 for stream reaches between Hancock, New York and the Delaware Water Gap and in Table 2 for stream reaches between the Delaware Water Gap and Trenton, New Jersey. Where existing water quality is not defined in Tables 1 and 2, existing water quality may be defined by extrapolation from the nearest upstream or downstream Interstate Control Point, from data obtained from sites within the same ecoregion, or on the basis of best scientific judgment.

WQR § 3.10.3A.2.a.3). (Emphasis added). The regulations provide the following definition of "Measurable Change to Existing Water Quality":

> "Measurable Change to Existing Water Quality" is defined as an actual or estimated change in a seasonal or non-seasonal mean (for SPW waters upstream of and including River Mile 209.5[*]) or median (for SPW waters downstream of River Mile 209.5) in-stream pollutant concentration that is outside the range of the two-tailed upper and lower 95 percent confidence intervals that define existing water quality."

WQR § 3.10.3A.2.a.4). (The footnote, omitted here, explains that River Mile 209.5 is the downstream boundary of the Delaware Water Gap National Recreation Area. SPW waters upstream of and including this point received SPW designation in 1992 and SPW waters below this point received SPW designation in 2005. The water quality strategy used to support the later designation differed from that employed a decade earlier.)

Stricken from the definition of "Measurable Change to Existing Water Quality" by the July 16, 2008 amendments was the statement, "In the absence of adequate available data, background concentrations will be assumed to be zero and 'measurable change' will be based on in-stream concentrations greater than the detection limit for each parameter, based on the lowest limit of the most sensitive technique specified in 40 CFR Part 136." Instead, the Commission will rely on extrapolation from the nearest upstream or downstream Interstate Control Point, from data obtained from sites within the same ecoregion, or best scientific judgment, as set forth in the definition of EWQ. In practice, DRBC prefers to define existing water quality based upon monitoring data. If no data are available, the nearest downstream control point EWQ values are used. However, in accordance with the EWQ definition, the applicant may choose to collect data that satisfies DRBC quality assurance standards or use existing data from the same ecoregion (which may be from a similar watershed nearby) to define EWQ.

3.3 SHOULD EXISTING WATER QUALITY BE ESTIMATED FROM DATA OBTAINED FROM SITES WITHIN THE SAME ECOREGION OR FROM BEST PROFESSIONAL JUDGMENT?

Although DRBC regulations allow for use of an estimate of existing water quality, DRBC prefers that existing water quality values be based upon monitoring data. If no data are available, the nearest downstream control point EWQ data are used. However, in accordance with the EWQ definition, the applicant may choose to collect data that satisfies DRBC quality assurance standards or use existing data from the same ecoregion (which may be from a similar watershed nearby) to define EWQ.

3.4 NITROGEN AND PHOSPHORUS EFFLUENT LIMITS SHOULD BE EXPRESSED AS ANNUAL AVERAGES, CONSISTENT WITH NUTRIENT LIMITATIONS BEING DEVELOPED FOR THE CHESAPEAKE BAY WATERSHED.

The restoration program that is being implemented in the Chesapeake Bay watershed is fundamentally different from the SPW program in the Delaware River Basin. The SPW program is an anti-degradation program that has been established to protect water quality determined by the Commission to be better than required to protect designated uses. Water quality in the Chesapeake Bay has been determined by the U.S. EPA and bordering states to be degraded below the water quality standards that were established to protect designated uses in the Chesapeake Bay.

Under the Federal Clean Water Act, states designate uses and corresponding standards to protect those uses for all waterways under their jurisdiction. The USEPA approves the designated uses and water quality standards. States periodically evaluate the water quality of their waterways, and when water quality does not meet the standards established to protect a waterway's designated use, the waterway is listed as impaired. An evaluation is performed to determine the pollutant(s) causing the impairment. A Total Maximum Daily Load (TMDL) is established for each pollutant for which impairment is detected. The TMDL includes load allocations for point sources ("wasteload allocations" or WLA's) and for nonpoint sources (LA's) that must be attained to restore water quality and the designated use.

The Chesapeake Bay watershed has been determined to be impaired due to excessive nitrogen and phosphorous loadings contributed by point and nonpoint sources. As a result the U.S. EPA and state agencies have calculated the TMDL for nitrogen – the maximum amount of nitrogen that the waterway can accept without suffering impairment, and is implementing strategies to reduce nitrogen loadings to that level in order to restore water quality and protect designated uses. Because nitrogen and phosphorous accumulate in the Chesapeake Bay, the U.S. EPA and states have determined that the TMDLs for nitrogen and phosphorous can be applied as annual averages.

In contrast, point source effluent limitations under the SPW program are established at levels needed to result in no measurable change to existing water quality, which has been established by the Commission for stream reaches in the Upper and Middle Delaware (see Table 1 of WQR § 3.10.3A.2) and at Boundary and Interstate Control Points for the Lower Delaware (see Table 2 of the same section) or at the levels required to meet BDT, if applicable. EWQ values for the SPW are applied as monthly averages. Seasonal adjustments may be approved for nutrient limitations. If more stringent effluent limitations are necessary to meet state water quality requirements, the more stringent limits will be applied.

3.5 DOES DRBC HAVE A LOWER THRESHOLD FOR SPW DESIGNATION THAN PA DOES FOR EV/HQ DESIGNATION, WHERE WATER QUALITY MUST BE BETTER THAN CRITERIA MORE THAN 99% OF THE TIME, OVER A ONE YEAR PERIOD?

When Pennsylvania makes a High Quality or Exceptional Value determination, the requirement that water quality be better than criteria more than 99 percent of the time

("the 99 percent criterion") is applied to twelve parameters – dissolved oxygen, iron, dissolved copper, temperature, dissolved arsenic, dissolved lead, aluminum, dissolved nickel, dissolved cadmium, pH, ammonia nitrogen, and dissolved zinc – as well as to certain biological evaluations. Total phosphorus and bacteria are not subject to the 99 percent criterion. The Commission has not provided numeric criteria for its Special Protection Waters (SPW) designation; rather the Commission may designate as Special Protection Waters streams or segments of streams that it deems to have "exceptionally high scenic, recreational, ecological and/or water supply values". Pennsylvania uses similar narrative requirements when qualifying a surface water as an Exceptional Value Water.

The data and technical reports upon which the Commission relied in assigning Special Protection Waters status to the Lower Delaware River show that for the parameters used by both DRBC and Pennsylvania, water quality criteria were achieved over 99 percent of the time in the Lower Delaware. Biological scores in the Lower Delaware were as good as or better than those in the Upper Delaware, which is already included in the Special Protection Waters program. DRBC also examined a number of parameters that Pennsylvania does not apply in its HQ and EV evaluations. A few of these, including but not limited to Enterococcus bacteria, E. coli bacteria, and total phosphorus, are not included in Pennsylvania's water quality criteria at all. Using the most stringent of DRBC, state, or federal criteria for all parameters that have assigned criteria, Delaware River chemical water quality was better than criteria approximately 95 percent of the time. The data were closely examined by state water quality assessment scientists and the Commission's Water Quality Advisory Committee, which includes representatives from New Jersey, Pennsylvania and a number of other private and public entities. The Water Quality Advisory Committee agreed that the water quality and biological data support the proposed classification of the Lower Delaware as Special Protection Waters.

3.6 SHOULD DRBC ADOPT NEW JERSEY'S PHOSPHORUS CRITERIA?

The nutrient criteria being considered by New Jersey and other basin states are criteria intended to protect designated uses. The SPW program is an anti-degradation program the objective of which is to protect existing water quality that is better than needed to protect designated uses. DRBC staff is currently drafting revised water quality criteria. In accordance with a nutrient strategy that is currently being developed, the Commission will consider nutrient criteria for the non-tidal portions of the mainstem Delaware River, including the Lower Delaware. This is a separate process from the current rulemaking, which pertains to DRBC's antidegradation program.

3.7 ANTI-DEGRADATION POLICIES SHOULD APPLY WHEN A DISCHARGER INCREASES CURRENT LOADS; EXISTING POINT SOURCES SHOULD NOT BE EXEMPT FROM ADDITIONAL CONTROL REQUIREMENTS UP TO THEIR CURRENT NPDES PERMITTED LOADING.

Also see 2.24.

As explained at length earlier in this document, in order to achieve the SPW objective of no measurable change except towards natural conditions and simultaneously protect the investment-backed expectations of existing wastewater treatment facility owners and operators, the most protective SPW requirements apply to existing facilities only when such facilities undertake "Substantial Alterations or Additions" as defined by the rule. Until then, an existing facility can continue to discharge up to the load allowed by the NPDES permit in effect on the date of SPW designation.

3.8 MAY THROUGH SEPTEMBER MONITORING OCCURS DURING A TIME OF YEAR WHEN MOST TREATMENT FACILITIES OPERATE MOST EFFICIENTLY, DISCHARGING CONCENTRATIONS AT LEVELS FAR BELOW THEIR EXISTING PERMIT LIMITS. SETTING EWQ STANDARDS AT THESE LEVELS ESSENTIALLY DIVESTS DISCHARGERS OF APPROVED DESIGN FLOW AND DISCHARGE LOADINGS.

ESTABLISHING EWQ BASED UPON MAY THROUGH SEPTEMBER MONITORING IS NOT REPRESENTATIVE OF YEARLY MEDIAN AVERAGE CONDITIONS, AND SEASONALLY-DERIVED EWQ SHOULD NOT BE USED ON A YEARLY BASIS. THESE SHOULD BE TREATED AS "SEASONAL" VALUES ONLY.

SINCE THE EWQ DATA WERE COLLECTED DURING THE SUMMER, THE ACTUAL VARIABILITY IN WATER QUALITY CONCENTRATIONS IS GREATLY UNDERESTIMATED. IN ADDITION, WASTEWATER DISCHARGE QUALITY OF AMMONIA IS MUCH BETTER IN THE SUMMER. THE FAILURE OF THE EWQ DEFINITION TO ACCOUNT FOR PERMITTED LOADS IS EVEN MORE EGREGIOUS BECAUSE THE AMBIENT SAMPLING OCCURRED ONLY DURING SUMMER MONTHS.

Also see 2.24.

May through September monitoring may not always be representative of yearly conditions. This is particularly true for nutrients. Summer permit conditions are directly derived from the EWQ tables for the seven or eight parameters used in the analysis that dischargers must perform when they are required to demonstrate no measurable change to existing water quality. To accommodate winter plant operations and conditions it has been DRBC practice to assign a winter effluent limit three times that derived from the seasonal EWQ values for ammonia and total nitrogen. Because total phosphorus, dissolved oxygen, BOD and total suspended solids discharges do not vary greatly by season, year-round permit limits for these parameters are set using the seasonal EWQ values. It is also DRBC practice to set year-round bacteria limits using seasonal EWQ values. The BDT requirement for effective disinfection, applicable to discharges directly to SPW that are either new or result from "Substantial Alterations or Additions" to an existing facility, should ensure that these limits are met.

3.9 IT IS NOT APPARENT THAT THE NON-DEGRADATION TARGETS ARE DIRECTLY REPRESENTATIVE OF THE COLLECTED INSTREAM DATA DUE TO THE STATISTICAL PROCEDURES USED TO SET THE LIMIT. THE DATA WERE LOG TRANSFORMED WHICH SERVES TO REDUCE THE CALCULATED MEAN AS COMPARED TO THE ARITHMETIC APPROACH. THIS MINIMIZES THE IMPACT OF HIGH READINGS DURING LOW FLOW CONDITIONS. DRBC SHOULD DEMONSTRATE THAT THE LOG TRANSFORM IS THE APPROPRIATE WAY TO ANALYZE THE DATA AND THEN SPECIFY THE MEDIAN FLOW THAT ACCOMPANIES THIS DATA SET TO AVOID MISAPPLICATION OF THESE TARGET VALUES UNDER LOW FLOW CONDITIONS. ANY SUBSEQUENT MEASURABLE CHANGE ANALYSIS SHOULD FOLLOW THAT SAME PROCEDURE TO ENSURE THE EWQ STANDARDS ARE APPLIED AS THEY WERE DERIVED.

Only the median and its confidence limits are related to setting effluent limits. These values were not transformed in any way, and they represent the median of the entire data set and its 95% confidence interval. Log transformations were used to find the best flow relationships in the regression equations. They are not used for setting permit limits but to assess whether measurable change in the ambient water has occurred at the site. In addition, log transformations were used only where such a transformation produced normality, as with bacteria and turbidity parameters. In the NMC analysis, flow values based upon the harmonic mean of the 2000-2004 data set for each control point will be used, because these values best represent "normal" flow during the period when EWQ values were established. Procedures to be used for assessment of measurable change will ensure that there is consistency between derivation and application of EWQ values.

NUMERIC VALUES FOR EXISTING WATER QUALITY (WATER QUALITY TARGETS)

3.10 WILL TARGETS BE CREATED FOR PARAMETERS FOR WHICH THERE ARE CURRENTLY NO DISCHARGE STANDARDS AND TO WHICH NEW AND EXPANDED DISCHARGES MUST CONFORM?

No such additional targets are contemplated at this time. However, if and when the Commission adds or changes an established target, such action would entail a notice and comment rulemaking process, including a written comment period and a public hearing.

3.11 THE ASTERISK FOOTNOTE IN TABLES 2C-2Z MUST BE CLARIFIED TO INDICATE THAT THESE ARE THE ONLY PARAMETERS THAT MAY BE EVALUATED FOR POINT SOURCES TO SATISFY ANTIDEGRADATION REQUIREMENTS. THE RULE ITSELF, NOT JUST THE ASTERISK FOOTNOTE, SHOULD LIST THE NMC PARAMETERS FOR POINT SOURCE EVALUATIONS.

The SPW rules have been amended to clarify in a new subsection 3.10.3 A.2.d.9) that for any wastewater treatment project subject to the "no measurable change" requirement, the demonstration of no measurable change to existing water quality shall be satisfied by a demonstration that the new or incremental increase in the facility's flow or load will cause no measurable change at the relevant water quality control point for a limited set of parameters: ammonia (NH_3 N); dissolved oxygen (DO); fecal coliform (FC); nitrate (NO_3 N) or nitrite + nitrate (NO_2 N + NO_3 N); total nitrogen (TN) or total Kjeldahl nitrogen (TKN); total phosphorus (TP); total suspended solids (TSS); and, in the Upper and Middle Delaware reaches only, biological oxygen demand (BOD). These parameters are denoted by asterisks in Tables 1 and 2 of the SPW rules, defining existing water quality. Table 2 has also been modified to give greater prominence to this point.

3.12 TABLES 2C-2Z INCLUDE A COLUMN LABELED "FLOW RELATIONSHIPS" THAT SHOWS REGRESSION EQUATIONS RELATED TO FLOW FOR MANY CONSTITUENTS. NO INFORMATION IS PROVIDED AS TO HOW THIS INFORMATION IS TO BE USED IN A NMC ANALYSIS.

Briefly, the regression was used to calculate EWQ for flow-related parameters. Harmonic mean flow was calculated for each site from the 2000-2004 data set. To calculate effluent loadings that would trigger measurable change, the given harmonic mean flow is entered into the regression equation, and the resulting EWQ value is then modeled in a mass balance equation (or a more sophisticated model).

The flow relationship is simply another way of defining EWQ for parameters that were shown to be strongly influenced by flow ($r^2>0.3$ and $p<0.005$). If no flow relationship is shown in the table, it means that the parameter is not strongly related to flow, and NMC or assessment comparisons may be made by simple comparative statistical tests like the parametric t-test or the non-parametric Mann-Whitney test.

3.13 IN THE MEASURABLE CHANGE DEFINITION, THE REFERENCE TO "SEASONAL OR NON-SEASONAL" CONCENTRATIONS CONFLICTS WITH THE DATA IN TABLE 2, WHICH WAS COLLECTED ONLY DURING THE MAY-SEPTEMBER SEASON. BY DEFINITION, IT IS NOT POSSIBLE TO EVALUATE "NO MEASURABLE CHANGE" OTHER THAN FOR THE MAY-SEPTEMBER SEASON.

The amended definition of "Measurable Change to Existing Water Quality" reads:

> "Measurable Change to Existing Water Quality" is defined as an actual or estimated change in a seasonal or non-seasonal mean (for SPW waters upstream of and including River Mile 209.5[*]) or median (for SPW waters downstream of River Mile 209.5) in-stream pollutant concentration that is outside the range of the two-tailed upper and lower 95 percent confidence intervals that define existing water quality."

WQR § 3.10.3A.2.a.4). The footnote, omitted here, explains that River Mile 209.5 is the downstream boundary of the Delaware Water Gap National Recreation Area. SPW waters upstream of and including this point received SPW designation in 1992 and SPW waters below this point received SPW designation in 2005. The water quality strategy used to support the later designation differed from that employed a decade earlier. Table 1, which defines EWQ for the earlier designated sections, includes non-seasonal values for some of the parameters that define EWQ.

The commenter observes correctly that the data upon which the EWQ values in Table 2 were developed were collected during the May-September season. For winter permit limits, it has been DRBC practice to triple the permit limit for ammonia and total nitrogen to accommodate winter plant operations and conditions. Because total phosphorus, dissolved oxygen, BOD and total suspended solids discharges do not vary greatly by season, year-round permit limits for these parameters are set using the seasonal EWQ values.

3.14 SETTING INDIVIDUAL TRIBUTARY STANDARDS IN ADDITION TO MAINSTEM OBJECTIVES IS INAPPROPRIATE AND PENALIZES FACILITIES ON SMALL TRIBUTARIES. THE FOCUS OF THE NON-DEGRADATION ANALYSIS SHOULD BE THE MAINSTEM OF THE LOWER DELAWARE, NOT THE INDIVIDUAL TRIBUTARIES THAT ARE PRIMARILY UNDER STATE JURISDICTION.

IT IS UNCERTAIN WHETHER DRBC INTENDS THAT COMPLIANCE BE DEMONSTRATED IN EACH TRIBUTARY AT ITS ASSOCIATED BCP. SMALL BUT MEASURABLE CHANGES IN TRIBUTARY CONCENTRATIONS MAY NOT BE MEASURABLE IN THE LARGER RIVER. DRBC MUST PRESENT AN ANALYSIS SHOWING THAT COMPLIANCE IN TRIBUTARIES UNDER PRIMARY JURISDICTION OF STATES IS REQUIRED TO ENSURE THAT NO MEASURABLE DEGRADATION IN MAINSTEM WATER QUALITY WILL OCCUR. THUS THE PROPOSED APPROACH APPEARS TO EXCEED THE LEGISLATIVE PURPOSE OF THE ACTION.

Because tributary loads influence water quality in the main stem Delaware River, protecting existing water quality in the main stem is not possible without appropriate controls on the tributaries. The rule establishes water quality control points at the confluence of tributaries that have the greatest potential to affect main stem water quality, as well as at some tributaries of special local and regional interest. These control points are specifically called “Boundary Control Points” in the rule. This aspect of the SPW program treats existing tributary dischargers no differently than main stem dischargers in that all loads from existing facilities are reflected in the EWQ values established at the water quality control points.

Discharges to tributaries may use the assimilative capacity of the tributary as long state water quality regulations allow it to do so. For many tributary dischargers, compliance

with state water quality regulations will also satisfy DRBC requirements. Tributary dischargers that by virtue of site-specific conditions face difficulty in satisfying DRBC's no measurable change requirement at the confluence of the receiving tributary with the main stem may also qualify for a mixing zone in the main stem Significant Resource Waters.

As amended, Section 3.10.3A.2.b.2) makes clear that the Commission may allow localized degradation of water quality for initial dilution purposes for discharges made directly to SRW *or to tributaries to SRW*, provided that after consultation with the state NPDES permitting agency the Commission finds that the public interest warrants these changes, and all other conditions of the section are satisfied. The latter include use of the "highest possible treatment levels . . . to limit the size and extent of the mixing zone"; and "consideration of site-specific conditions, discharge structure design, and the cost and feasibility of treatment technologies." Thus, if a tributary discharger demonstrates that requiring it to satisfy the no measurable change requirement at a control point located on the tributary is not in the public interest, a mixing zone in the main stem may be permitted in accordance with this section.

Although the Commission has not yet approved final dockets reflecting this approach, in extensive preliminary meetings with applicants for wastewater treatment facility projects in Lower Makefield, PA and Port Jervis, NY, both of which discharge to tributaries, the DRBC staff have committed to recommending Commission approval of mixing zones in the main stem Delaware River.

3.15 MANY OF THE PARAMETERS SELECTED FOR THE EWQ NON-DEGRADATION STANDARDS HAVE NO APPARENT DIRECT RELATIONSHIP TO MAINTENANCE OF STREAM USES, HAVE NO FEDERAL AND STATE NARRATIVE AND NUMERIC CRITERIA, AND ARE UNPRECEDENTED FROM A WASTEWATER TREATMENT PERSPECTIVE. IT IS NOT REASONABLE OR PRACTICAL TO REGULATE THESE CONSTITUENTS IN WASTEWATER DISCHARGES.

FOR THOSE PARAMETERS NOT RELATED TO USES, SUCH AS SPECIFIC CONDUCTANCE, TDS, ALKALINITY AND HARDNESS, INCLUSION IN EWQ CHARACTERIZATION AND ATTEMPTS TO FREEZE THEM AT OBSERVED LEVELS DOES NOT SERVE TO PROTECT OR MAINTAIN THE LOWER DELAWARE RIVER RESOURCE.

Also see response to 3.16.

The SPW program is an anti-degradation program. In contrast with water quality standards programs, which protect designated uses, anti-degradation programs like the SPW program are designed to preserve existing water quality that is substantively better than necessary to protect designated uses. The objective of the SPW program is "that there be no measurable change in existing water quality except towards natural conditions

in waters considered by the Commission to have exceptionally high scenic, recreational, ecological and/or high water supply values." WQR § 3.10.3A.2.

In order to achieve the "no measurable change" objective, the regulations require that for any load in excess of that actually discharged at the time of SPW designation (i.e. at the time EWQ was defined), project sponsors need to demonstrate that the introduction of these new flows and loads will not result in a measurable change to existing water quality. The SPW rules have been amended to clarify in a new subsection 3.10.3 A.2.d.9) that for any wastewater treatment project subject to the "no measurable change" requirement, the demonstration of no measurable change to existing water quality shall be satisfied by a demonstration that the new or incremental increase in the facility's flow or load will cause no measurable change at the relevant water quality control point for a limited set of parameters: ammonia (NH_3 N); dissolved oxygen (DO); fecal coliform (FC); nitrate (NO_3 N) or nitrite + nitrate (NO_2 N + NO_3 N); total nitrogen (TN) or total Kjeldahl nitrogen (TKN); total phosphorus (TP); total suspended solids (TSS); and, in the Upper and Middle Delaware reaches only, biological oxygen demand (BOD). These parameters are denoted by asterisks in Tables 1 and 2 of the SPW rules, defining existing water quality. Table 2, establishing numeric values for existing water quality in the Lower Delaware, has also been modified to give greater prominence to this point. The complete set of parameters for which existing water quality values are established in Tables 1 and 2 of Section 3.10.3A.2. will be periodically monitored by DRBC to determine ambient water quality.

3.16 SEVERAL OF THE PARAMETERS SELECTED TO CHARACTERIZE EWQ ARE EITHER POOR OR MEANINGLESS INDICATORS OF EWQ. THESE INCLUDE CHLOROPHYLL-A, MID-DAY DO CONCENTRATION AND SATURATION, AND ORTHOPHOSPHATE.

Parameters used to define existing water quality were selected because they help to define or contribute to eutrophication. Chlorophyll-a is a measure of the productivity of the phytoplankton community. High levels of chlorophyll-a are indicative of excessive productivity that is not characteristic of high quality waters. Dissolved oxygen concentrations and percent dissolved oxygen saturation are also indicative of trophic status, with high dissolved oxygen and supersaturation of dissolved oxygen (>100%) suggesting excessive productivity. Orthophosphate is also known as reactive phosphorus. It is contributed primarily by fertilizer runoff and is readily available to phytoplankton, periphyton and macrophytes. Water quality models currently being developed by the Commission for the Lower Delaware will link all of these parameters and eventually will enable the Commission to determine the maximum loads of nutrients, including nitrogen and phosphorus, that can be assimilated by the river without increasing eutrophication.

The Commission has also amended the SPW rules to clarify in a new subsection 3.10.3 A.2.d.9) that for any wastewater treatment project subject to the "no measurable change" requirement, the demonstration of no measurable change to existing water quality shall be satisfied by a demonstration that the new or incremental increase in the facility's flow or load will cause no measurable change at the relevant water quality control point for a limited set of parameters typically discharged by wastewater treatment plants: ammonia

(NH_3 N); dissolved oxygen (DO); fecal coliform (FC); nitrate (NO_3 N) or nitrite + nitrate (NO_2 N + NO_3 N); total nitrogen (TN) or total Kjeldahl nitrogen (TKN); total phosphorus (TP); total suspended solids (TSS); and, in the Upper and Middle Delaware reaches only, biological oxygen demand (BOD). These parameters are denoted by asterisks in Tables 1 and 2 of the SPW rules, defining existing water quality.

3.17 SEVERAL EWQ STANDARDS ARE CONFLICTING AND REQUIRING NO MEASURABLE CHANGE IN WATER QUALITY MAY OTHERWISE BE COUNTERPRODUCTIVE. FOR EXAMPLE, MEETING CHLORIDE/ TDS/ CONDUCTANCE MAY REQUIRE REVERSE OSMOSIS (REQUIRING HUGE ENERGY EXPENDITURE) AND LIMIT FUTURE ACTIONS IN TREATING NUTRIENTS WITH METAL SALTS WHICH CREATE A TOXIC BRINE. THIS MAY CAUSE MORE ENVIRONMENTAL HARM THAN GOOD.

The comment is based on an incorrect understanding of the SPW regulations and their implementation. While conductivity and total dissolved solids are parameters that the Commission used to make its overall assessment of instream water quality and for which it will periodically conduct ambient monitoring in waters classified as SPW, these parameters are not required to be used by wastewater treatment facility project sponsors to demonstrate that their new or expanding discharges will cause no measurable change to existing water quality.

The SPW rules have been revised to clarify explicitly in a new subsection 3.10.3 A.2.d.9) that for any wastewater treatment project subject to the "no measurable change" requirement, the demonstration of no measurable change to existing water quality shall be satisfied by a demonstration that the new or incremental increase in the facility's flow or load will cause no measurable change at the relevant water quality control point for a limited set of parameters typically discharged by wastewater treatment plants: ammonia (NH_3 N); dissolved oxygen (DO); fecal coliform (FC); nitrate (NO_3 N) or nitrite + nitrate (NO_2 N + NO_3 N); total nitrogen (TN) or total Kjeldahl nitrogen (TKN); total phosphorus (TP); total suspended solids (TSS); and, in the Upper and Middle Delaware reaches only, biological oxygen demand (BOD). These parameters are denoted by asterisks in Tables 1 and 2 of the SPW rules, defining existing water quality.

Note that the Commission currently has the following basin-wide and stream-specific standards for total dissolved solids (TDS):

> 1. *(Resolution No. 67-7).* The waters of the Basin shall not contain substances attributable to municipal, industrial, or other discharges in concentrations or amounts sufficient to preclude the specified water uses to be protected.
>
> * * *
>
> b. *(Resolution Nos. 74-1 and 78-7).* the concentration of total dissolved solids, except intermittent streams, shall not exceed 133 percent of background.

> 2. *(Resolution No. 67-7)*. In no case shall concentrations of substances exceed those values given for rejection of water supplies in the United States Public Health Service Drinking Water Standards.

See WQR § 3.10.3B. In addition, the Commission has established basinwide effluent limits for TDS, as follows:

> 2. *(Resolution No. 78-7)*. Total dissolved solids shall not exceed 1000 mg/l, or a concentration established by the Commission which is compatible with designated water uses and stream quality objectives, and recognizes the need for reserve capacity to serve future dischargers.

See WQR § 3.10.4D. It also has established stream quality objectives for specific stream reaches. For Zone N1, for example, the regulations provide,

> 9. Total Dissolved Solids *(Resolution No. 74-1)*. Not to exceed:
> a. 133 percent of background, or
> b. 500 mg/l, whichever is less.

WQR § 3.20.10C. TDS limits are applied consistent with these regulations.

3.18 THE CHOICE OF NUTRIENT TARGETS IS UNSUPPORTED AND CONTRADICTORY. ONE OF THE UNDERLYING GOALS OF THE RULES APPEARS TO BE TO FORCE NUTRIENT REDUCTIONS AT FACILITIES. IMPOSING NUTRIENT REDUCTIONS IN A REGION THAT IS NOT NUTRIENT IMPAIRED OR EXPECTED TO BECOME SO WITHOUT REGULATORY CONTROLS IS ARBITRARY AND CAPRICIOUS.

DRBC's SPW regulations provide that "it is the policy of the Commission that there be no measurable change in existing water quality except towards natural conditions in waters considered by the Commission to have exceptionally high scenic, recreational, ecological and/or high water supply values." The SPW program is an anti-degradation program. Anti-degradation programs are more protective than water quality programs that are designed to protect designated uses. The SPW program is designed to protect existing water quality in the Delaware River, which in general is substantively better than that necessary to protect designated uses. Point and non-point sources of water pollution contribute nutrient loads to waterways and thus it is reasonable to include nutrients among the parameters used to define existing water quality in waters classified by the Commission as SPW.

3.19 DRBC'S GRANTING OF AN EXCEPTION TO THE "NO MEASURABLE CHANGE" REQUIREMENT FOR NUTRIENT FACILITIES CONFIRMS THAT RELATED ALKALINITY, CHLORIDE, AND SPECIFIC CONDUCTANCE COMPONENTS ARE NOT A SERIOUS CONCERN TO DRBC.

The commenter misunderstands the Commission's regulatory approach to nutrients and disinfection. The referenced provision is located in the definition of "Substantial Alterations or Additions" to an existing wastewater treatment facility. This definition provides in relevant part that

> "Substantial Alterations or Additions" are those additions and alterations resulting in (a) a complete upgrade or modernization of an existing wastewater treatment plant, including substantial replacement or rehabilitation of the existing wastewater treatment process or major physical structures such as headworks, settling tanks, and biological/ chemical treatment and filtration tanks, whether conducted as a single phase or a multi-phased project or related projects . . . . Among other projects, modifications made solely to address wet weather flows; and alterations that are limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal are not deemed to be "Substantial Alterations or Additions."

WQR § 3.10.3A.2.a.16). In order to protect the investment-backed expectations of the owners and operators of existing wastewater treatment plants located within the drainage area of Special Protection Waters, the rule provides that these plants may discharge up to the loads allowed by their NPDES permits in effect at the time of SPW designation, unless and until they undertake "Substantial Alterations or additions." At that point, the plants become subject to the most protective SPW treatment requirements – analysis of no-discharge/load reduction alternatives for direct discharges to SPW; natural treatment alternatives for discharges within the drainage area of SPW; BDT as the minimum treatment for direct discharges; and a demonstration that the proposed incremental discharge will result in no measurable change to existing water quality at the applicable water quality control point.

The provision that "alterations limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal are not deemed to be "Substantial Alterations or additions" was added because the Commission's members particularly wish to encourage existing dischargers to voluntarily reduce nutrient loads. Accordingly, they do not want facility owners and operators to be deterred from undertaking nutrient reductions out of a concern that they might trigger additional SPW requirements.

When the no measurable change requirement of the rule is triggered, no exception for nutrients is made. On the contrary, the rule states in relevant part,

> For wastewater treatment facility projects subject to the no measurable change requirement, the demonstration of no measurable change to existing water quality shall be satisfied if the applicant demonstrates that the new or incremental increase in the facility's flow or load will cause no measurable change at the relevant water quality control point for the parameters denoted by asterisks in Tables 1 and 2 of this section: ammonia (NH_3 N); dissolved oxygen (DO); fecal coliform (FC); nitrate (NO_3 N) or nitrite + nitrate (NO_2 N + NO_3 N); *total nitrogen (TN) or total*

Kjeldahl nitrogen (TKN); total phosphorus (TP); total suspended solids (TSS); and biological oxygen demand (BOD) (Table 1 only).

WQR § 3.10.3A.2.d.9) (emphasis added).

3.20 IT IS NOT APPARENT WHY INDIVIDUAL NUTRIENT FORMS MUST BE ADDRESSED AND LIMITED, IN ADDITION TO TOTAL FORMS. THERE IS NO INFORMATION IN THE RECORD SHOWING THAT MAINTAINING BOTH NITROGEN AND PHOSPHORUS LEVELS IS NECESSARY TO LIMIT ALGAL GROWTH. IT IS WELL RECOGNIZED THAT PHOSPHORUS IS TYPICALLY THE LIMITING NUTRIENT IN FRESH WATERS AND REGULATING NITROGEN IS MUCH MORE COSTLY AND LESS EFFECTIVE AT LIMITING ALGAL GROWTH.

The only nutrient forms that apply to effluent limits are ammonia nitrogen, total nitrogen and total phosphorus. Commission and other studies have shown that phytoplankton algal production is co-limited by nitrogen and phosphorus in the Lower Delaware (DRBC 2006-2007). Commission periphyton studies have also demonstrated that eutrophic diatoms dominate the algal community in the Lower Delaware River, especially downstream of the Lehigh River confluence (DRBC 2006). It may be that phosphorus is typically the limiting nutrient in lakes, but in streams and rivers both nitrogen and phosphorus limit algal growth (Dodds 2007, U.S. EPA web cast). The mechanism that produces excess algal growth, or eutrophication, from increases in nutrient concentrations is indirect, complex, and influenced by other biotic and abiotic factors. So in defining EWQ, DRBC chose to represent nutrient concentrations in many forms, including total and partial forms of nitrogen and phosphorus. Regulation of both phosphorus and nitrogen is necessary to maintain EWQ and to prevent eutrophication.

3.21 DRBC NEEDS TO RECONSIDER THE PARAMETER SELECTION TO AVOID SETTING INCONSISTENT EWQ TARGETS. AS AN UPPER AND LOWER BOUND ARE PLACED ON ALL CONSTITUENTS, THIS APPROACH ACTUALLY PREVENTS A FACILITY FROM REDUCING ITS DISCHARGE LOADING TOO MUCH, AN INHERENTLY COUNTERPRODUCTIVE CONCEPT. MOST IMPORTANTLY, THE TARGET LEVELS NEED SOME RATIONAL CONNECTION TO USE PROTECTION NEEDS. SUCH ANALYSIS IS NOT PRESENT IN THE RECORD, AND NEEDS TO OCCUR BEFORE ACTION IS TAKEN.

Also see 3.15 and 3.16.

The upper and lower confidence limits shown in Table 2 of the regulation are merely representations of water quality conditions as they existed in the 2000-2004 period. Not every single number is applicable to dischargers. DRBC would welcome a reduction in discharge loading by any facility. In regard to use protection needs, there is no need to tie EWQ to designated uses, as EWQ is not a standard or criterion and is not effects-

based. EWQ is a numeric policy statement or representation of water quality as of a certain period, and is generally a water quality level that is better than effect levels and better than required to protect designated uses.

3.22 THE SEASONAL, IMPROPERLY SITED DATA USED TO ESTABLISH EWQ WERE MANIPULATED SO THAT HIGHER VALUES, SUCH AS MIGHT OCCUR DURING STORM EVENTS, WERE DESIGNATED AS OUTLIERS AND DELETED FROM THE EWQ DATASET.

Stations were properly sited to capture representative water quality conditions and to avoid locations within the mixing zones allowed some discharges. Streamflows, and thus EWQ values, include local water quality, reservoir flow, and discharge influences from upstream of each control point. For median and 95% confidence intervals, no outliers were intentionally excluded or manipulations made to make water quality appear better than it really is. The medians and confidence intervals reflect the entire data set, and Table 2 as approved has been edited to ensure that the median and 95% confidence intervals are based upon the entire data record for each site, without removal of outliers. For flow related regressions, extremely influential data were excluded (such as extremely large storm events that were not sampled frequently enough for confident prediction of concentrations at those high flows). Each regression, of which the Commission examined over 400, represents only the range of flow conditions where it is possible to predict a concentration as related strongly to flow. Of necessity major storm events are excluded where insufficient data exist to predict concentration based on flow using linear regression. For each regression, the flow boundary conditions are well defined, and future assessments shall not attempt to predict concentrations beyond these boundaries, so that no bias exists in the data or its interpretation.

3.23. SEVERAL OF THE EWQ TARGETS FOR AMMONIA ARE BELOW THE LEVEL OF DETECTION. REQUIRING COMPLIANCE WITH A NON-DETECT VALUE IS IMPRACTICAL AND CONFUSING. AS AMMONIA IS A CRITICAL PARAMETER REGULATED IN MOST NPDES PERMITS, DRBC SHOULD DETERMINE THE REASONABLE LEVEL OF INSTREAM AMMONIA THAT WILL FULLY PROTECT USES WITH A WIDE SAFETY MARGIN. THIS WOULD ALLOW FACILITIES TO GROW TO THEIR DESIGN FLOW CONDITIONS WITHOUT FORCING CONSTRUCTION OF NEW FACILITIES OR ABANDONMENT OF WELL-OPERATED TECHNOLOGIES SUCH AS TRICKLING FILTERS, WHILE FULLY PROTECTING HIGH-QUALITY WATERS.

Although the commenter is correct in that at several of the sites up to 70% of all ammonia data are non-detects, the Commission does not agree that non-detect values for existing water quality are impractical. The frequency of detection can be used in future assessments of changes to existing water quality. In addition, various statistical techniques are available to analyze data sets with non-detect values.

It must be stressed that EWQ values are not linked to designated uses, as they are neither effect levels nor designated use criteria. EWQ is used as a numeric policy for antidegradation of water quality, as explained above in the responses to 3.15 and 3.16.

3.24 FOOTNOTE TO TABLE 2 CONFLICTS WITH THE PROPOSED DEFINITION OF 'MEASURABLE CHANGE'. THE FOOTNOTE SPECIFIES ONLY MEDIAN AND ITS CLS, WHILE THE DEFINITION SPECIFIES MEAN OR MEDIAN.

The amended rule corrects the discrepancy between the footnote and the definition of "measurable change". The definition in the approved rule reads as follows:

> "Measurable Change to Existing Water Quality" is defined as an actual or estimated change in a seasonal or non-seasonal mean (for SPW waters upstream of and including River Mile 209.5*) or median (for SPW waters downstream of River Mile 209.5) in-stream pollutant concentration that is outside the range of the two-tailed upper and lower 95 percent confidence intervals that define existing water quality."

WQR § 3.10.3A.2.a.4). The footnote, omitted here, explains that River Mile 209.5 is the downstream boundary of the Delaware Water Gap National Recreation Area. SPW waters upstream of and including this point received SPW designation in 1992 and SPW waters below this point received SPW designation in 2005. The water quality strategy used to support the later designation differed from that employed a decade earlier.

3.25 FOOTNOTE TO TABLE 2, SPECIFYING ONLY MEDIANS AND CLS, UNFAIRLY RESTRICTS EWQ TO ONLY "NORMAL PERIODS" BECAUSE THE MEDIAN TENDS TO REDUCE THE INFLUENCE OF OUTLIER POINTS, SUCH AS THOSE ENCOUNTERED DURING STORMS OR DROUGHTS. THESE "ABNORMAL" PERIODS MUST ALSO BE INCLUDED WHEN DEFINING EWQ. THE COMMISSION SHOULD MAKE THE MEAN DATA AVAILABLE AND CHANGE THE FOOTNOTE LANGUAGE.

As defined by the 2000-2004 period, EWQ contains data reflecting "normal," drought and storm conditions. Storms and droughts are covered by the regression equations for those parameters strongly related to flow, and the overall data set includes storm and drought data. For the demonstration of "no measurable change to existing water quality" and for purpose of establishing effluent limits in permits, calculations are based upon harmonic mean flow, not on storm or drought flows. For assessment of potential water quality changes at each site, the 2000-2004 data is plotted against new flow data. Any new data collected from flow conditions outside the range of those represented in the 2000-2004 data set are excluded from comparison, ensuring that only data collected under similar flow conditions are compared with one another. In addition to the comparison points shown in the rule tables (median, upper and lower 95% confidence intervals, regression slope and Y-intercept), other indicators of potential change will be

interpreted statistically: 10^{th} and 90^{th} percentiles; frequency of outliers and non-detects; confidence intervals of the regression against flow. All statistical tests will be performed at the 95% confidence level.

It is not necessary to change the footnote language because the mean was not used to describe this non-normal data set.

3.26 FOOTNOTE IN TABLE IMPLIES 50 DATA POINTS FOR EACH EWQ TARGET WHILE DATA SET CLEARLY SHOWS EXAMPLES WITH FEWER THAN 50.

An additional clause has been added to the footnote of each table so that the footnote reads "EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples for each parameter was variable, however, due to a number of design and sampling constraints."

3.27 THE STATEMENT ON PG. 76 OF APPENDIX 2 IN THE BASIS AND BACKGROUND DOCUMENT THAT "FOR MUCH OF THE LOWER DELAWARE SPECIAL PROTECTION WATERS DATA, WE HAVE A SAMPLE SIZE OF BETWEEN 40 AND 50 OBSERVATIONS" IS INCORRECT BASED ON COMMENTER'S EVALUATION OF THE DATA. THE DRBC SHOULD USE N=35 INSTEAD OF N=40.

The statement is correct in that the sample size is between 40 and 50 for much of the data. The commenter's analysis illustrates this point, with 13 of the 24 stations having all sample sizes between 40 and 50, and the remaining 11 sites having sample sizes between 27 and 47, where sampling and design constraints prevented collection of 50 samples.

3.28 THE ANALYSIS ON PG. 77 OF APPENDIX 2 IN THE BASIS AND BACKGROUND DOCUMENT IS INCORRECT IN USING N=38 DATA POINTS; THE COMPLETE DATA SET FOR THIS SITE AND THIS PARAMETER IS 40. THIS ANALYSIS SHOULD BE RE-DONE.

The commenter is correct that the full data set of n=40 data points for Total Phosphorus at Calhoun St in Trenton should be utilized in the calculation. All analyses have been checked for all parameters to ensure that all "confidence interval of the median" analyses have included all data, including non-detects and outliers. The specific reference to page 77 has been revised. All of the sub-tables in Table 2 have been verified, and edits to parameters have been made where computations were mistakenly based on subsets of data.

3.29 HOW CAN COMPARISONS BETWEEN FUTURE DATA AND EXISTING DATA BE MADE FOR VARIABLES WITH FLOW-REGRESSION RELATIONSHIPS GIVEN THE VARIABLE AND AT TIMES WEAK CORRELATIONS IN THOSE REGRESSION RELATIONSHIPS?

The regressions presented in these tables include only those that are statistically significant at p=0.05 with r^2>0.3, indicating that concentrations are significantly influenced by flow. An r^2 value of 0.3 rather than 0.9 indicates that flow influences concentrations, but perhaps indirectly or in combination with other influential factors. An r^2 of 0.3 is still a significant relationship as long as it meets the p=0.05 confidence level. Thus, DRBC represents that these relationships are unlikely to be attributable to random variation alone and are strong enough for future statistical comparisons to new data sets collected at similar, but not identical, flows.

3.30 THE TABLE 2 REGRESSION EQUATIONS FOR E. COLI FOR THE PEQUEST, MARTINS CREEK, MUSCONETCONG, TINICUM, BULLS ISLAND, WICKECHEOKE, WASHINGTON CROSSING, AND TRENTON MONITORING LOCATIONS; AND FECAL COLIFORM AT THE EASTON LOCATION LACK A REGRESSION COEFFICIENT IN THE BACKUP FOR THIS TABLE (IT WAS NOTED AS BEING "NOT SIGNIFICANT"); YET THE REGRESSION EQUATIONS WERE STILL RETAINED. WHY IS THIS SO?

Those regressions should not have been included. Table 2 has been modified accordingly.

3.31 THERE WERE REGRESSION CORRELATION COEFFICIENTS GIVEN IN THE BACKUP TO TABLE 2 THAT WERE BETTER THAN MOST (I.E.>70%), YET NO REGRESSION EQUATION WAS PRESENTED IN TABLE 2 IN THESE INSTANCES (FOR ORTHOPHOSPHATE IN THE LEHIGH RIVER AND MARTIN'S CREEK, AND TOTAL SUSPENDED SOLIDS IN THE PEQUEST RIVER). WHY WAS THIS DONE?

In the case of orthophosphate, there was not a consistently strong relationship to flow at most locations; therefore, regressions were removed at all locations for this parameter.

3.32 TABLE 2D LISTS MEDIAN VALUES IN THE REGRESSION EQUATION COLUMN, IS THIS A MISTAKE?

The commenter is correct that the median values listed in the "regression" column for table 2D were listed in error. They have been removed.

3.33 OUTLIERS APPEAR TO BE REMOVED IN THE CALCULATION OF MEDIANS AND CONFIDENCE INTERVALS FOR SOME PARAMETERS AT SOME STATIONS, BUT THESE DATA SHOULD BE PART OF THE ANALYSIS RATHER THAN EXCLUDED.

The commenter is correct that all data should be included in the analysis for medians and confidence intervals of the medians. As noted in previous responses, the DRBC has verified all sub-tables to Table 2, and edits to parameters have been made where computations were originally based on subsets of data.

3.34 NEGATIVE VALUES APPEAR TO BE INCLUDED IN THE NITRATE DATA SET. IS THIS CORRECT, AND HOW WERE THESE NEGATIVE VALUES DEALT WITH, IF SO?

Review of the DRBC dataset shows no negative values exist for raw nitrate concentrations at any site. A separate column contains the log of nitrate concentrations, and some of these values were negative due to the range of raw concentrations. In the data file, log columns were created in attempts to transform non-normally distributed data to normal. In most cases, the transformation did not produce normal distributions, and as a consequence the log data have gone unused.

3.35 DATA APPEAR TO BE REPORTED ABOVE AND BELOW THE LOWER DETECTION LIMIT (LDL), AND DATA SHOULD ONLY BE USED ABOVE A LABORATORY'S PRACTICAL QUANTITATION LIMIT (PQL).

The DRBC database includes a column for the laboratory reporting level (LRL) but includes no information about a "lower reporting level". The LRL is many times higher than a lab's statistically determined method detection limit (MDL). The commenter is correct that values below the LRL are reported and used in the analysis, but they are noted as "J-flagged" or estimated data points. Although below the LRL and considered estimated values, these estimated data points are the best representation of the concentration of the analyte in the sample, and contemporary analytical approaches consider the use of these estimated values to be the superior approach, and preferable to alternative approaches that consider these estimated values below the LRL simply as "censored" data points. (Helsel, D.R. 2005. Nondetects and Data Analysis: Statistics for Censored Environmental Data. John Wiley & Sons, Hoboken, NJ. 250 pp.).

3.36 WERE THE LOWEST CONCENTRATIONS REPORTED IN THE DRBC DATABASE VALIDLY DETECTED OR SIMPLY ESTIMATED?

The DRBC database includes data above and below the laboratory reporting level (LRL). For concentrations below the LRL but above the method detection limit (MDL), the analytical laboratories reported the estimated value and included a data-flag indicating these values are estimated, a standard practice for analytical laboratories. As noted in the preceding response, contemporary analytical approaches consider the use of these estimated values to be superior to alternative approaches that consider estimated values below the LRL simply as "censored" data points. (Helsel, D.R. 2005. Nondetects and Data Analysis: Statistics for Censored Environmental Data. John Wiley & Sons, Hoboken, NJ. 250 pp.). In addition, the DRBC used highly reputed certified analytical laboratories and EPA-approved methods for all analytical work for the Lower Delaware database.

3.37 THE DEFINITIONS OF EXISTING WATER QUALITY ARE BELOW THE QUANTITATION LIMITS FOR A LOCAL LABORATORY. DISCHARGERS MAY FIND IT DIFFICULT TO QUANTIFY THE PARAMETERS USED TO DEFINE EXISTING WATER QUALITY AND THEREFORE HAVE DIFFICULTY CONDUCTING "NO MEASURABLE CHANGE" ANALYSES.

The DRBC recognizes that water quality in the Lower Delaware and its tributaries is very good and that standard analytical laboratories that perform wastewater analysis may find it challenging to detect concentrations of some materials in water samples from these streams. The accurate evaluation of water quality for waters in the Lower Delaware requires the selection of analytical laboratories that have method detection limits (MDL's), laboratory reporting levels (LRL's), and practical quantitation levels (PQL's) sufficiently low to fully characterize water quality at a given sampling site. The selected laboratories should also report estimated values above the MDL but below the LRL or PQL, since use of such estimated values is deemed to be superior to censoring these data points (Helsel, D.R. 2005. Nondetects and Data Analysis: Statistics for Censored Environmental Data. John Wiley & Sons, Hoboken, NJ. 250 pp.).

BEST DEMONSTRABLE TECHNOLOGY

3.38 DRBC SHOULD DETERMINE A THRESHOLD LEVEL OF DISCHARGE INCREASE, BASED ON AT LEAST A ONE-YEAR OF REVIEW OF FACILITY DISCHARGE QUALITY, BEFORE REQUIRING BEST DEMONSTRABLE TECHNOLOGY EFFLUENT LIMITS.

In accordance with Section 3.10.3A.2.a.16) of the Water Quality Regulations (defining "Substantial Alterations or Additions") and sections 3.10.3A.2.d.6) and 7) (defining "Best Demonstrable Technology" or "BDT"), the only projects subject to the BDT minimum treatment requirements are (a) new wastewater treatment facilities discharging 10,000 g.p.d. or more as a 30-day average directly to SPW and (b) existing facilities with direct discharges when they undergo "Substantial Alterations or Additions" and the resulting facility discharges 10,000 g.p.d or more as a 30-day average. Existing facilities may discharge up to the limits in their NPDES permits effective on the date of SPW designation without triggering BDT unless and until "Substantial Alterations or Additions" are undertaken for these facilities. At such time it is likely that the investment-backed expectations of facility owners and operators in their existing plants will have been largely realized, and the cost of implementing SPW treatment requirements will be a marginal cost associated with new capital investment that is otherwise needed. In return for the added investment, communities within the drainage area to SPW will have the ongoing assurance of high water quality, with accompanying benefits to the region's economy and quality of life.

3.38A DID DRBC CONSULT WITH PADEP TO DETERMINE, AHEAD OF TIME, WHICH DISCHARGERS WOULD BE SUBJECT TO BEST DEMONSTRABLE TECHNOLOGY REQUIREMENTS UPON RENEWAL, RATHER THAN DETERMINING THIS CASE-BY-CASE AT THE TIME OF RENEWAL?

The Commission staff worked closely with the NPDES permitting agencies of the member states in all stages of developing the rule amendments approved on July 16, 2008.

3.39 SHOULD DRBC BE USING BEST DEMONSTRABLE TECHNOLOGY LIMITS AT LEAST AS STRINGENT AS THOSE USED BY NEW JERSEY?

"Best Demonstrable Techonology" (BDT) in the context of the SPW program is the minimum level of treatment required for new facilities discharging 10,000 g.p.d. or more as a 30-day average directly to SPW and for existing facilities discharging directly to SPW when these facilities undergo "Substantial Alterations or Additions" resulting in a discharge of 10,000 g.p.d. or more as a 30-day average. The effluent criteria that define BDT were established by the Commission when DRBC originally promulgated the SPW regulations for point source discharges in 1992. Although treatment technologies have advanced since that year, these "BDT" criteria have been retained for the limited purposes of the SPW program. BDT as defined herein may be superseded, however, by applicable federal, state or DRBC criteria that are more stringent.

3.40 AS TREATMENT TECHNOLOGY HAS IMPROVED SINCE 1992, BDT SHOULD BE MORE STRINGENT THAN THAT STATED IN THE RULE.

It is true that although treatment technologies have advanced since 1992, no change was proposed to the BDT criteria defined by sections 3.10.3A.2.d.6) and 7) of the regulations. These criteria may be superseded, however, by applicable federal, state or DRBC criteria that are more stringent. If the Commission decides in the future to propose changes to its definition of BDT, the proposed changes will be subject to a notice and comment rulemaking process, including a public comment period and public hearing.

3.41 WILL "BEST DEMONSTRABLE TECHNOLOGY" REQUIRE CAPITAL AND OPERATING COST INCREASES TO EXISTING DISCHARGERS THAT WILL NEED TO EXPAND TO ACCOMMODATE GROWTH WITHIN THEIR SERVICE AREAS?

The SPW program is designed to protect existing water quality in part by requiring facilities to invest in protective treatment technologies at the time they expand. In this way, it seeks to avoid the environmental and economic costs of infrastructure and development that overburden the waterway with pollution and only then attempting to correct the impairment.

BDT is the minimum treatment applicable to existing facilities discharging directly to SPW at such time as these facilities undertake "Substantial Alterations or Additions" as defined by section 3.10.3A.2.a.16) of the rule, and the altered or expanded facility discharges 10,000 g.p.d. or more as a 30-day average. Compliance with BDT may result in marginally higher capital and/or operating costs than a plant upgrade or expansion might otherwise entail.

The SPW rules have been amended to make very clear that BDT applies only to direct discharges to Special Protection Waters (OBW or SRW) and does not apply to discharges to tributaries lacking SPW designation. Existing facilities potentially affected by the requirement are thus main stem discharges from Hancock, New York south to Trenton, New Jersey and tributary discharges within the Delaware Water Gap National Recreation Area.

3.42 IN BDT, NITROGEN AND PHOSPHORUS EFFLUENT LIMITATIONS SHOULD BE "ANNUAL AVERAGE" LIMITS TO BE CONSISTENT WITH EXISTING NUTRIENT LIMITATION PROGRAMS.

The Commission has taken a different approach. The effluent criteria that define Best Demonstrable Technology (BDT) were established by DRBC in 1992 when the Commission originally promulgated the Special Protection Waters regulations for point source discharges. Although treatment technologies have advanced since that year, these BDT criteria have been retained for the limited purposes of the SPW program. BDT as defined by the rule may be superseded, however, by applicable federal, state or DRBC criteria that are more stringent. The Commission elected not to propose changes to BDT as part of the amendments approved on July 16, 2008. If the Commission decides to propose changes to its definition of BDT in the future it will conduct notice and comment rulemaking on such proposed changes.

3.43 THE REGULATIONS STATE AT A MINIMUM THAT DISCHARGERS WHO ARE EXPANDING OR SUBSTANTIALLY ALTERING THEIR FACILITIES MUST DESIGN AND CONSTRUCT THE PROJECTS TO USE BDT. THE RULE PREAMBLE EXPLAINS THAT THIS MINIMUM TECHNOLOGY REQUIREMENT IS ONLY SUPPOSED TO APPLY FOR MAINSTEM DISCHARGERS; HOWEVER, THE REGULATIONS DO NOT STATE THIS EXPRESSLY. CLARIFICATION IS NECESSARY.

The SPW rules have been amended to make clear that BDT applies only to direct discharges to Special Protection Waters (OBW or SRW) and does not apply to discharges to tributaries lacking SPW designation. Existing facilities potentially affected by the requirement are thus main stem discharges from Hancock, New York south to Trenton, New Jersey and tributary discharges within the Delaware Water Gap National Recreation Area.

SUBSTANTIAL ALTERATIONS OR ADDITIONS

3.44 THE COMMISSION PROPOSES TO INCLUDE IN THE DEFINITION ALL PROJECTS THAT INCLUDE A NEW OR INCREASED DISCHARGE THAT WAS NOT INCLUDED IN A PERMIT OR DOCKET THAT IS "EFFECTIVE ON THE DATE OF SPW DESIGNATION." THIS UNFAIRLY PENALIZES DISCHARGERS FOR THE SIGNIFICANT LAG TIME THAT OCCURS BETWEEN PERMIT APPLICATION AND ISSUANCE THAT IS BEYOND THE DISCHARGERS' CONTROL. THE DEFINITION SHOULD SPECIFY THOSE LOADINGS INCLUDED IN AN ADMINISTRATIVELY COMPLETE PERMIT OR DOCKET. [DEFINITION CHANGES ARE SUGGESTED BY COMMENTER.]

The Commission works with the states and prospective project sponsors as early as possible in the development stage of projects to reduce potential delays and design issues related to Commission approval. Since the interim SPW designation in January of 2005, Commission staff has worked with several applicants in the Lower Delaware River watershed to assist them in planning for SPW requirements. Commission staff has also worked with project sponsors in the Upper and Middle Delaware River watershed in the planning stages of their projects to facilitate identification of SPW requirements. To that end, the Commission has taken the initiative to complete project review, including determining SPW effluent requirements, at the project planning stage, contingent upon submission of plans and specifications demonstrating treatment facilities are designed to comply with approved effluent limits.

3.45 THIS DEFINITION APPEARS TO BE TARGETED AT MUNICIPAL WASTEWATER TREATMENT PLANTS BECAUSE IT EXCLUDES ONLY PROJECTS CHANGING DISINFECTION OR NUTRIENT REMOVAL METHODS. THIS NARROW DEFINITION UNFAIRLY RESTRICTS THIS EXCLUSION FOR INDUSTRY, BECAUSE INDUSTRIES MAY HAVE VERY DIFFERENT TREATMENT WORKS. IF ANY FACILITY IS PROPOSING TO UPGRADE TREATMENT OF ANY TYPE, IT SHOULD NOT BE PENALIZED BY HAVING TO GO THROUGH REGULATORY REVIEW. [DEFINITION CHANGES ARE SUGGESTED.]

The commenter misunderstands the Commission's regulatory approach to nutrients and disinfection. The referenced provision is located in the definition of "Substantial Alterations or Additions" to an existing wastewater treatment facility, which provides in relevant part that

> "Substantial Alterations or Additions" are those additions and alterations resulting in (a) a complete upgrade or modernization of an existing wastewater treatment plant, including substantial replacement or rehabilitation of the existing wastewater treatment process or major physical structures such as headworks, settling tanks, and biological/ chemical treatment and filtration tanks, whether conducted as a single

> phase or a multi-phased project or related projects . . . . Among other projects, modifications made solely to address wet weather flows; and alterations that are limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal are not deemed to be "Substantial Alterations or Additions."

WQR § 3.10.3A.2.a.16). In order to protect the investment-backed expectations of the owners and operators of all existing wastewater treatment plants (both industrial and municipal) located within the drainage area of Special Protection Waters, the rule provides that these plants may discharge up to the loads allowed by their NPDES permits in effect at the time of SPW designation, unless and until they undertake "Substantial Alterations or Additions." At that point, the plants become subject to the most protective SPW treatment requirements – analysis of no-discharge/load reduction alternatives for direct discharges to SPW; natural treatment alternatives for discharges within the drainage area of SPW; BDT as the minimum treatment for direct discharges; and a demonstration that the proposed incremental discharge will result in no measurable change to existing water quality at the applicable water quality control point.

The clarifying language to the effect that "alterations limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal are not deemed to be "Substantial Alterations or Additions" was added because the Commission's members particularly wish to encourage existing dischargers to voluntarily reduce nutrient loads. Accordingly, they do not want facility owners and operators to be deterred from undertaking nutrient reductions out of a concern that they might trigger additional SPW requirements.

When the no measurable change requirement of the rule is triggered, no exception for nutrients is made. On the contrary, the rule states in relevant part,

> For wastewater treatment facility projects subject to the no measurable change requirement, the demonstration of no measurable change to existing water quality shall be satisfied if the applicant demonstrates that the new or incremental increase in the facility's flow or load will cause no measurable change at the relevant water quality control point for the parameters denoted by asterisks in Tables 1 and 2 of this section: ammonia (NH_3 N); dissolved oxygen (DO); fecal coliform (FC); nitrate (NO_3 N) or nitrite + nitrate (NO_2 N + NO_3 N); *total nitrogen (TN) or total Kjeldahl nitrogen (TKN); total phosphorus (TP);* total suspended solids (TSS); and biological oxygen demand (BOD) (Table 1 only).

WQR § 3.10.3A.2.d.9) (emphasis added).

3.46 GUIDANCE MUST BE ISSUED THAT CLEARLY DEFINES WHAT ACTIVITIES ARE CONSIDERED "SUBSTANTIAL ALTERATIONS OR ADDITIONS." THE PROPOSED DEFINITION LACKS CLARITY AND CAUSES CONFUSION.

Although DRBC will provide additional guidance in a Guidance Manual, DRBC believes the regulations as amended are clear. The proposed regulations define "Substantial Alterations or Additions" as

> those additions and alterations resulting in: (a) a complete upgrade or modernization of an existing wastewater treatment plant, including substantial replacement or rehabilitation of the existing wastewater treatment process or major physical structures such as headworks, settling tanks, and biological/chemical treatment and filtration tanks, whether conducted as a single phase or a multi-phased project or related projects; or (b) a new load or increased flow or loading from an existing facility that was not included in a NPDES permit or docket effective on the date of SPW designation. Among other projects, modifications made solely to address wet weather flows; and alterations that are limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal are not deemed to be "Substantial Alterations or Additions."

WQR § 3.10.3A.2.a.16). The SPW rules also have been amended to list in section 3.10.3 A.2.d.8) all of the requirements triggered by "Substantial Alterations or Additions" to an existing facility. The new subsection provides that when substantial alterations or additions to an existing facility are proposed,

> . . . although the actual discharge at the time of SPW designation remains exempt from additional requirements, the proposed expansion cannot be approved until (a) the applicant demonstrates that it has evaluated all non-discharge load reduction alternatives for all or a portion of the incremental load and is unable to implement these alternatives because of technical or financial infeasibility (for discharges directly to Outstanding Basin Waters (OBW) and Significant Resource Waters (SRW)); (b) the applicant demonstrates that it has evaluated all natural wastewater treatment system alternatives for all or a portion of the incremental load and is unable to implement these alternatives because of technical or financial infeasibility (for discharges directly to OBW and SRW and for tributary discharges); (c) the Commission has determined that the project is demonstrably in the public interest as defined herein (for discharges directly to SRW); (d) the minimum level of treatment to be provided for the incremental discharge is Best Demonstrable Technology as defined herein (for discharges directly to OBW and SRW); and (e) the applicant demonstrates that the project will cause no measurable change to Existing Water Quality as defined herein (for discharges directly to OBW and SRW and for tributary discharges).

WQR § 3.10.3 A.2.a.17).

3.47 THE DEFINITION'S REFERENCE TO "AT THE TIME OF SPW DESIGNATION" MUST BE CLARIFIED. AT WHICH DATES, TEMPORARY, PERMANENT?

The term used in the proposed amendments to the Commission's regulations is "in a NPDES permit or docket effective on the date of SPW designation." The Commission designated the upper and middle sections of the non-tidal Delaware River as SPW by Resolution No. 92-21 on December 9, 1992. It designated the Lower Delaware River as SPW by Resolution No. 2005-2 on January 19, 2005, following notice and comment rulemaking. The Commission determined in Resolution No. 2005-2 that "the Lower Delaware River is characterized by exceptionally high scenic, recreational, and ecological values and water supply uses that require special protection." Water quality sampling for the Lower Delaware was completed in 2004. The applicable SPW designation dates are therefore December 9, 1992 for the Upper and Middle Delaware and January 19, 2005 for the Lower Delaware.

3.48 THE PROPOSED DEFINITION OF "SUBSTANTIAL ALTERATIONS OR ADDITIONS" SHOULD SPECIFICALLY EXCLUDE INCREASES IN WASTEWATER FLOWS THAT ARE DUE TO THE ELIMINATION OF OVERFLOWS. THESE CASES SHOULD NOT TRIGGER AN ANTIDEGRADATION REVIEW.

The rule has been amended to provide explicitly that "modifications made solely to address wet weather flows . . . are not deemed to be "Substantial Alterations or Additions" triggering the SPW treatment requirements listed in Section 3.10.3A.2.d.8) of the amended rule for an existing facility. These requirements include analysis of alternatives to a direct discharge, analysis of natural treatment alternatives, use of best demonstrable technology as the minimum treatment for a direct discharge, and the demonstration of no measurable change to existing water quality.

The amendment is consistent with the objective of "no measurable change to existing water quality except toward natural conditions" because alterations or additions to a wastewater treatment facility for the sole purpose of treating larger wet weather flows are expected to reduce pollutant loads to the receiving stream by providing for treatment of flows previously discharged without treatment. The Commission wishes to encourage treatment plant owners and operators to undertake such changes.

If the alterations or additions are undertaken in combination with an expansion to accommodate new service areas and if the resulting discharge includes a flow and/or load in excess of that allowed by the NPDES permit in effect at the time of SPW designation, the exemption will not apply. Nor will the exemption apply if the modifications are accompanied by "a complete upgrade or modernization". In those instances, the modifications will be deemed "Substantial Alterations or Additions" triggering the additional requirements.

The requirements for standby power, remote alarms, emergency management plans and non-point source pollution control are applicable at the time of the next NPDES permit renewal or re-issuance following SPW designation. No exception is provided as to these requirements.

ALTERNATIVE DISCHARGE ANALYSIS

Please also see responses at 1.38, 3.55, 3.56 and 4.11.

3.49 THE LANGUAGE THAT SPECIFIES THE TRIGGER FOR ALTERNATIVES ANALYSIS, "THE EVALUATION OF . . . ALTERNATIVES SHALL CONSIDER ALTERNATIVES TO ANY AND ALL LOADINGS – BOTH EXISTING AND PROPOSED – IN EXCESS OF ACTUAL LOADINGS AT THE TIME OF SPW DESIGNATION," IS NOT CLEAR. THE LANGUAGE APPEARS TO LIMIT CONSIDERATION OF ALTERNATIVES TO THOSE "IN EXCESS OF ACTUAL LOADINGS AT THE TIME OF SPW DESIGNATION," A RESULT THE COMMISSION PRESUMABLY DOES NOT ENDORSE.

The alternatives analysis is indeed intended to apply to loadings in excess of those occurring at the time of SPW designation. Loadings that were occurring at the time of SPW designation are reflected in the numeric values assigned to existing water quality in Tables 1 and 2 and may therefore continue indefinitely under the rule without causing a measurable change to existing water quality.

3.50 THE REQUIREMENT TO "SATISFACTORILY PROVE THE TECHNICAL AND/OR FINANCIAL INFEASIBILITY OF USING NATURAL WASTEWATER TREATMENT TECHNOLOGIES" REPRESENTS AN UNDUE BURDEN WITH NO ENVIRONMENTAL BENEFIT WHATSOEVER IN THE CASE OF LARGE, URBAN DISCHARGERS, OF WHICH THERE ARE MANY IN THE WATERSHED.

Section 3.10.3A.2.c.1) of the SPW Regulations requires new or expanded wastewater discharges to evaluate the technical and financial feasibility of natural wastewater treatment technologies. Determination of technical and financial infeasibility occurs on a case-by-case basis, taking into consideration local conditions such as availability of land, soil types, degree of treatment required, local economic conditions and other factors. In applying the "technical and financial feasibility" standard the Commission will look first at the technical feasibility of alternative treatments. If there is found to be a technically feasible alternative, the Commission will consider a demonstration by the applicant that the alternative is financially infeasible. Demonstrations by urban discharges need not be burdensome. Sponsors of urban discharges that lack access to land for natural treatment processes will be able to make such demonstrations at the time they perform their facility planning analysis. The Commission may consider as guidance but will not as a rule require consistency with the EPA's *Appendix to the Water Quality Standards Handbook – Second Edition: Interim Economic Guidance for Water Quality Standards* (EPA- 823-B-95-002, March 1995). The following language also will be added: Within each of the no-discharge and natural treatment alternative categories of the hierarchy, a discharger may select the technical alternative that the discharger finds most cost effective.

The alternatives analysis is intended to apply only to loadings that were not occurring at the time of SPW designation. Loadings that were occurring at the time of SPW designation may continue indefinitely under the rule.

MIXING ZONE PROVISIONS

3.51 EVEN IF NON-DEGRADATION VALUES ARE MET, MIXING ZONE PROVISIONS MAY IMPOSE ADDITIONAL TREATMENT REQUIREMENTS EVEN IF NO MEASURABLE IMPACT IS FOUND. THIS IS INAPPROPRIATE AND INCONSISTENT WITH HOW THE INSTREAM EWQ OBJECTIVES WERE DERIVED. THIS PROVISION SHOULD BE DELETED.

Existing water quality is established at both interstate and boundary control points, and reflects the dilution and fate of pollutants introduced above those points. Discharges may, however, enter the mainstem Delaware River or a tributary at any point upstream of an interstate control point. The mixing zone provisions are intended to ensure that existing water quality is not degraded outside of a small area near the discharge point. Prior to the Commission's action of July 16, 2008, nothing in the language of the SPW regulation precluded the Commission from allowing limited mixing within waters classified as Significant Resource Waters (SRW) when the applicable Water Quality Control Point was located on a tributary to SRW. As amended, Section 3.10.3 A.2.b.2 makes clear that the Commission may allow localized degradation of water quality for initial dilution purposes for discharges made directly to SRW or to tributaries to SRW, provided that after consultation with the state NPDES permitting agency the Commission finds that the public interest warrants these changes, and all other conditions of the section are satisfied. The latter include use of the "highest possible treatment levels . . . to limit the size and extent of the mixing zone"; and "consideration of site-specific conditions, discharge structure design, and the cost and feasibility of treatment technologies." Thus, if a tributary discharger demonstrates that requiring it to satisfy the no measurable change requirement at a control point located on the tributary is not in the public interest, a mixing zone in the main stem may be permitted in accordance with this section. Although the Commission has not yet approved final dockets reflecting this approach, in extensive preliminary meetings with applicants for wastewater treatment facility projects in Lower Makefield, PA and Port Jervis, NY, both of which discharge to tributaries, the DRBC staff have committed to recommending Commission approval of mixing zones in the main stem Delaware River.

3.52 THE COMMISSION PROPOSES TO LIMIT THE USE OF MIXING ZONES TO ONLY THOSE DISCHARGES WARRANTED BY "PUBLIC INTEREST." MIXING ZONES ARE ACCEPTED REGULATORY CONDITIONS THAT SHOULD BE AVAILABLE TO ANY DISCHARGER. [LANGUAGE MODIFICATIONS ARE SUGGESTED BY COMMENTER.]

Although the designation of mixing zones is an accepted regulatory option, it is a discretionary action on the part of a permitting authority, and requires that certain conditions be satisfied within the mixing zone. The discretionary approval of a mixing zone may also be used to ensure compliance with acute water quality criteria, although such criteria are not anticipated to apply in the SPW context.

The SPW provisions adopted by the Commission in 1992 prohibit the use of mixing zones in waters classified as Outstanding Basin Waters and limit mixing zones in Significant Resource Waters (SRW) to those instances in which "the public interest warrants these changes." WQR § 3.10.3A.2.b.2). The amendments approved on July 16, 2008 modify the SRW mixing zone provision in part by expressly providing that consultation with the state NPDES permitting agency is required before the Commission makes a finding that the public interest warrants "localized degradation for initial dilution" in SRW. The amendments also clarify that the Commission may allow mixing zones for discharges made directly to SRW or to tributaries to SRW, provided that after consultation with the state NPDES permitting agency the Commission finds that the public interest warrants these changes, and all other conditions of the section are satisfied. The latter include use of the "highest possible treatment levels . . . to limit the size and extent of the mixing zone"; and "consideration of site-specific conditions, discharge structure design, and the cost and feasibility of treatment technologies."

Thus, if a tributary discharger demonstrates that requiring it to satisfy the no measurable change requirement at a control point located on the tributary is not in the public interest, a mixing zone in the main stem may be permitted in accordance with this section. Although the Commission has not yet approved final dockets reflecting this approach, in extensive preliminary meetings with applicants for wastewater treatment facility projects in Lower Makefield, PA and Port Jervis, NY, both of which discharge to tributaries, the DRBC staff have committed to recommending Commission approval of mixing zones in the main stem SRW.

EFFLUENT TRADING PROVISIONS

3.53 THIS LANGUAGE SHOULD ALLOW FOR TRADING BETWEEN POINT SOURCES AND NON-POINT SOURCES.

Because of the technical and administrative challenges involved in regulating trades between point and non-point sources, the Commission has determined that water quality trading should be restricted at this time to trades only between like sources (i.e., point or non-point) within the same watershed and/or the same water quality control points.

3.54 CONSIDERING THE DIFFICULTIES ENCOUNTERED IN THE CHESAPEAKE BAY TRADING PROGRAM, DRBC SHOULD DESIGN A SIMPLE, WORKABLE SET OF TRADING PRINCIPLES AND PROCEDURES AS SUPPLEMENTAL IMPLEMENTATION GUIDANCE.

The Commission believes that a program allowing trades between like sources (point or non-point) within the same watershed or water quality control points is a workable program. For point source discharge projects that satisfy applicable requirements of Sections 3.10.3A.2.b. through d. above, the Commission may approve effluent trading on a voluntary basis between point sources within the same watershed or control points to achieve no measurable change to existing water quality. Applicants seeking the Commission's approval for a trade must demonstrate equivalent load and pollutant reductions and the ability (through contracts, docket conditions, NPDES effluent limits or other legal instruments) to ensure continuous achievement of the required reductions for a term of not less than five (5) years or the time required for the point source(s) to install the treatment needed to demonstrate no measurable change to existing water quality, whichever term is longer.

TECHNICAL FEASIBILITY

Please also see responses at 1.38, 3.49, 3.50 and 4.11.

3.55 DRBC SEEMS TO BE PROMOTING LAND DISPOSAL OF WASTEWATER, INCLUDING ON-LOT DISPOSAL (SEPTIC SYSTEMS) OVER CENTRALIZED COLLECTION AND TREATMENT, BUT THE LATTER [SIC] APPROACH IS, IN MANY CASES, INFEASIBLE AND CAN LEAD TO GROUNDWATER CONTAMINATION.

The SPW rules require that before considering surface discharges, project sponsors for new or expanding discharges directly to SPW examine the technical and financial feasibility of non-discharge/load reduction alternatives, which may include on-site disposal, among other options. New or expanding discharges to SPW must determine the technical and financial feasibility of natural treatment alternatives. If an alternative is determined to be technically or financially infeasible for any reason, including harm to groundwater, the Commission will not require a project sponsor to pursue it.

3.56 THE PROPOSED RULE WOULD REQUIRE WATER QUALITY BASED EFFLUENT LIMITS THAT ARE TECHNICALLY INFEASIBLE, IN ORDER TO MEET AMBIENT LEVELS, AND WOULD OFFER NO BENEFIT TO ENVIRONMENTAL QUALITY OR HUMAN HEALTH.

The Commission established the Special Protection Waters Program in 1992 for point sources and in 1994 for non-point sources to implement the Commission's contemporaneously adopted policy that there should be "no measurable change in existing water quality except toward natural conditions in waters considered by the Commission to have exceptionally high scenic, recreational, ecological, and/or water supply values." DRBC WQR, § 3.10.3A.2. The upper and middle portions of the non-tidal Delaware received SPW designation upon the program's adoption for point sources in 1992. In January of 2005, the Commission determined on the basis of extensive water quality monitoring and resource assessments that the section of the Delaware River from

River Mile 133.4 to River Mile 209.5, known as the "Lower Delaware River", "is characterized by exceptionally high scenic, recreational, ecological and/or water supply values/uses within the meaning of Section 3.10.3A of the *Water Quality Regulations* and requires special protection in accordance with that section." DRBC Resolution No. 2005-2. A decade-and-a-half of program implementation in the Upper and Middle Delaware has demonstrated that implementing the effluent limits required to achieve the "no measurable change" objective is indeed technically feasible.

IV. Impact on Municipalities, Industrial Facilities & Administrative Agencies

The responses at 1.26, 2.6, 2.19, 2.24, 2.28, 3.19, and 3.45 also address this issue.

IMPACT ON SERVICE PROVISION

4.1 WILL THIS PROPOSED DESIGNATION PREVENT COMMUNITIES FROM ADEQUATELY ADDRESSING WASTEWATER TREATMENT NEEDS BY PREVENTING FACILITIES FROM EXPANDING TO TAKE ON WASTEWATER FROM FAILING SEPTIC SYSTEMS, CESSPOOLS AND WILDCAT SEWERS?

The approved designation does not prevent communities from addressing their wastewater treatment needs. The SPW regulations allow existing treatment facilities to continue to accept flows and wastes up to the design flow and/or loading included in the NPDES permit in effect for the facility on the date of SPW designation (December 9, 1992 for the Upper and Middle Delaware and January 19, 2005 for the Lower Delaware) without triggering additional treatment requirements. As long as the flow and load limits in the NPDES permit in effect on the date of SPW designation are not exceeded, a facility can add wastewater from failing septic systems, cesspools and "wildcat" sewers without triggering additional treatment requirements. Only "Substantial Alterations or Additions," consisting of either (a) "a complete upgrade or modernization" or (b) a proposal to increase flows and/or loads above those allowed in the NPDES permit in effect on January 19, 2005, will trigger the SPW requirements within the Lower Delaware drainage for: analysis of alternatives to a direct discharge to SPW, analysis of natural treatment alternatives, use of Best Demonstrable Technology as minimum treatment for a direct discharge to SPW, and the demonstration of no measurable change to existing water quality at the applicable control point for any incremental load above that actually discharged at the time of SPW designation.

4.2 WHAT IMPACT WILL THE PROPOSED RULE HAVE ON WATER WITHDRAWALS FROM THE DELAWARE RIVER BASIN?

The only SPW requirement applicable to a water withdrawer is the requirement for an approved non-point source pollution control plan (NPSPCP) for any new area served. An existing water withdrawal docket holder will be unaffected by this requirement until it

applies for approval for service area changes or for a new or increased surface or ground water withdrawal. At that point, an NPSPCP will be required for areas where new connections are proposed. The approved NPSPCP is generally required before the Commission approves a docket (similar to a permit), although the Commission will consider making subsequent submission and approval of an NPSPCP a condition of approval when appropriate. The Commission does not require an NPSPCP for an individual dwelling or building constructed as "infill" within an existing service area. However, a new multi-unit development within an existing service area must have an approved NPSPCP before connections are allowed if the withdrawer has received a docket approval conditioned on satisfaction of this requirement. To reduce duplication of effort, the Commission will accept a state-approved NPSPCP that satisfies Commission criteria. Only those docket holders that have the legal authority to adopt and implement a NPSPCP are required to do so. However no hook-ups may be made for projects subject to the NPSPCP provision until the connecting entity furnishes the Commission with evidence of compliance with the requirement.

4.3 WOULD THE PROPOSED CLASSIFICATION PRECLUDE EXPANSION OF THE BCWSA'S WATERWORKS WITHDRAWAL BECAUSE THE BCWSA LACKS THE AUTHORITY TO IMPLEMENT A NON-POINT POLLUTION CONTROL PLAN?

IS THE PROVISION THAT "NEW HOOKUPS CANNOT BE MADE UNLESS THE SERVICE AREA IS REGULATED BY A NON-POINT SOURCE POLLUTION CONTROL PLAN" UNREASONABLE IF THE APPLICANT LACKS THE LEGAL AUTHORITY TO IMPLEMENT SUCH A PLAN?

WOULD THE REGULATION IMPACT THE BCSWA BY PREVENTING THE AUTHORITY FROM PROVIDING SAFE, POTABLE WATER AS REQUIRED BY THE COUNTY HEALTH DEPARTMENT, PROVIDING RELIABLE FIRE PROTECTION FACILITIES, ESTABLISHING RELIABLE BACKUP SUPPLY TO GROUND WATER, AND WOULD IT PENALIZE THE AUTHORITY, WHO WOULD HAVE INCURRED FACILITY BUILDING COSTS BUT, WOULD BE UNABLE TO ADD CUSTOMERS TO THE SYSTEM?

The Commission does not view the provision as unreasonable. Although a municipal water and sewerage authority such as BCWSA may lack the authority to implement a non-point source plan, it has the ability to require applicants for new hook-ups to furnish evidence of compliance with the requirement. Compliance with the SPW requirement can be satisfied by the developer, the municipality, the county or by some other entity with the authority to implement the plan.

For a project sponsor with the legal authority to establish and implement an NPSPCP, the responsibility lies with the project sponsor to provide an approvable NPSPCP to the Commission. Some project sponsors, such as municipal utility authorities and private

water purveyors, may not have the legal authority to establish and enforce an NPSPCP. Recognizing this lack of authority, the Commission does not require such project sponsors to submit an NPSPCP to the Commission for approval. However, if a Commission-approved NPSPCP is not yet in place for the area to be served by a new or increased water withdrawal, Commission approval of the withdrawal will be contingent upon fulfillment of this requirement by the developer or other entity with the authority to establish and enforce non-point source controls.

The Commission will always consider the need for reliable fire protection in its decisions related to the approval of new connections. Project sponsors with such concerns are urged to bring them to the Commission as early as possible in the application process. In addition, project sponsors should engage the Commission early in the planning process to avoid any unnecessary delays in providing service.

4.4 THIS RULE IMPOSES A MANDATORY CONNECTION BAN IF THE SERVICE AREA DOES NOT HAVE A COMMISSION-APPROVED ENFORCEABLE NON-POINT SOURCE PLAN. THIS IS NOT LEGALLY OR TECHNICALLY SUPPORTABLE, AND VIOLATES BASIC DUE PROCESS RIGHTS. CONNECTION BANS ARE A FORM OF INJUNCTIVE RELIEF THAT MUST BE DEMONSTRATED GIVEN SPECIFIC FACTS AND NOWHERE ARE THOSE SPECIFIC FACTS DEMONSTRATED FOR THIS RULE. MOREOVER, THE AUTHORITY FOR THIS REQUIREMENT IS NOT APPARENT FROM ANY ENABLING LEGISLATION OR THE DRBC COMPACT ITSELF. IMPOSING A CONNECTION BAN IS ARBITRARY AND CAPRICIOUS ABSENT A DEMONSTRATION OF DRBC LEGAL AUTHORITY TO ADOPT A DEFACTO MORATORIUM AND SOME DEMONSTRATION THAT THE CURRENT NEW JERSEY APPROACH FOR DELAWARE TRIBUTARIES IS INSUFFICIENT TO MEET THE GOALS OF THE SPW DESIGNATION.

In accordance with Article 5 of the *Delaware River Basin Compact*, the commission has broad authority to "control future pollution and abate existing pollution in the waters of the basin" subject to the requirements of due process. The Commission does not view the provision as unreasonable or unlawful. Although a municipal water and sewerage authority or a private water purveyor may lack the authority to implement a non-point source plan, it has the ability to require a developer applying for new subdivision hook-ups to furnish evidence of compliance with the requirement. Compliance with the SPW requirement can be satisfied relatively simply by the developer, the municipality, or another entity with the authority to implement the plan.

If evidence of compliance with the requirement has not been furnished in advance of docket approval, the Commission may condition approval on subsequent submission by the applicant of evidence that a Commission approved or equivalent NPSPCP is in place before connections are made. All docket actions receive a public hearing, and all are

subject to appeal in accordance with the Delaware River Basin Compact and the *Rules of Practice and Procedure*.

4.5 WILL TREATMENT FACILITIES HAVE SUBSTANTIAL FINANCIAL OBLIGATIONS?

An existing facility is not likely to incur significant costs in connection with the SPW compliance until the owner or operator either (a) undertakes "a complete upgrade or modernization" of the facility or (b) expands the facility's flow and/or load above that included in the NPDES permit in effect at the time of SPW designation. Either of these changes will constitute "Substantial Alterations or Additions", as defined by the amended rule, thereby triggering the most protective SPW requirements for any load in excess of that actually discharged by the facility at the time of SPW designation: analysis of alternatives to a direct discharge to SPW; analysis of natural treatment alternatives; use of Best Demonstrable Technology as the minimum treatment for a direct discharge to SPW; and the demonstration of no measurable change to existing water quality at the applicable water quality control point. When "Substantial Alterations or Additions" are undertaken, the investment-backed expectations of facility owners and operators in their existing plants are likely to have been largely realized, and the cost of implementing SPW treatment requirements will be a marginal cost associated with new capital investment that is otherwise needed.

In general, the cost of compliance with the SPW requirements will vary for existing facilities depending on the existing NPDES permit or docket limits applicable to the plant, the technology utilized, the location of the discharge – e.g., whether it is located on the main stem or on a tributary, and if the latter, its proximity to the main stem confluence – the availability of direct discharge/load reduction alternatives (if applicable), the availability of natural treatment alternatives, whether a new or expanded facility is constructed, the composition and quantity of wastewater sent to the facility and other factors.

4.6 UNDER THESE REGULATIONS, WOULD INDUSTRIES WITH GENERAL PERMITS REQUIRE INDIVIDUAL PERMITS FOR STORMWATER, RESULTING IN SIGNIFICANT COSTS ASSOCIATED WITH TREATING STORMWATER?

The SPW regulations do not require individual stormwater permits for industries operating under stormwater general permits. The effect of the rule on non-point source discharges by industrial (and other) development is to provide that any new wastewater treatment project or "expanding wastewater treatment project" subject to Commission review must "submit for approval a Non-Point Source Pollution Control Plan that controls the new or increased non-point source loads generated within the portion of the project's service area which is also located within the drainage area of Special Protection Waters." *See* WQR § 3.10.3A.2.e.1). An "expanding wastewater treatment project" is defined as

> a project involving either (a) alterations or additions to an existing wastewater treatment facility that result in a reviewable project in accordance with the Commission's *Rules of Practice and Procedure*; or (b) a new load or increased flow or loading from an existing facility that was not included in a NPDES permit or docket effective on the date of SPW designation.

WQR § 3.10.3A.2.a.15).

Depending upon the conditions of the general permit and the activities conducted on the site, the Commission may require the NPSPCP to include elements not required by the facility's general permit. However, new or expanding facilities sited in areas with DRBC-approved Watershed Non-point Source Management Plans are deemed to have automatically satisfied the SPW NPSPCP requirement. *See* WQR § 3.10.3A.2.e.1)(b). Thus, it is to an industry's or developer's advantage to support local initiatives to develop such watershed-wide plans.

4.7 WOULD THERE BE SIGNIFICANT, DIRECT COSTS TO DISCHARGERS, IN APPLICATION STUDIES, LEGAL FEES AND NEW EQUIPMENT, WHICH WOULD DIMINISH INDUSTRY'S ABILITY TO OPERATE AND NOT RESULT IN SIGNIFICANT WATER QUALITY IMPROVEMENT?

The rules will result in limited additional cost to an existing discharger operating within the loads allowed by its NPDES permit in effect at the time of SPW designation (January 19, 2005 for discharges within the drainage area to the Lower Delaware River). Existing facilities will become subject to costlier treatment requirements only when they undertake "Substantial Alterations or Additions" as defined by the amended rule. In return for the added investment, communities within the drainage area to SPW will have the ongoing assurance of high water quality, with accompanying benefits to the region's economy and quality of life.

4.8 ARE MUNICIPALITIES AND INDUSTRIES THAT HAVE MADE SIGNIFICANT CAPITAL INVESTMENTS TO UPGRADE WATER QUALITY GOING TO BE PENALIZED BY NOT BEING ALLOWED TO INCREASE DISCHARGES?

No. Existing dischargers will become subject to additional SPW treatment requirements only when they undertake expansions or make "Substantial Alterations or Additions" to their facilities. Existing dischargers will be subject to less burdensome requirements that pertain to standby power facilities, remote alarms, visual discharge plumes (in Outstanding Basin Waters) and emergency management plans, upon the next renewal of their NPDES permit after SPW designation. This approach respects the investment-backed expectations of facility owners and operators and the commitments of these owners and operators to the communities they serve.

4.9 ARE THERE PROGRAMS TO SUBSIDIZE OR SECURE FUNDS FOR DESIGN, PROCUREMENT AND INSTALLATION OF TREATMENT EQUIPMENT?

Federal and state loan programs are available to dischargers wishing to expand their facilities. These programs are generally administered by the states under the federal Clean Water Act. Some states have additional programs. The DRBC does not have a loan or grant funding mechanism.

Within the Commonwealth of Pennsylvania, Governor Rendell announced the availability of funds for municipalities required to upgrade their treatment facilities, including upgrades undertaken as a result of the SPW regulations. In a letter dated July 16, 2008 (the day of the Commission's action) to the mayors of Pennsylvania towns and cities with wastewater treatment facilities located in the drainage area to Lower Delaware Special Protection Waters, Governor Rendell wrote:

> I expect that in the future this designation may require that, should you expand your waste treatment facilities or see expanded use of existing facilities, upgrades may be necessary to treat the effluent in order to meet the standards of this important river protection designation. As you know, last week I signed into law up to $1.2 billion in new funding for the upgrade of water and waste water treatment facilities. These bills specifically state that funds should be made available to water and waste water systems that are upgrading their treatment systems to meet new regulations. As such, if you are required to make improvements due to this designation you would be eligible to receive some funding in the form of grants and loans to complete the upgrades.

Letter from Edward G. Rendell to Mayor John B. Callahan, City of Bethlehem, dated July 16, 2008, p. 2.

4.10 ARE THERE ANY TAX BREAKS AVAILABLE TO AFFECTED USERS, WHICH WOULD OFFSET ADDED COSTS OF COMPLIANCE WITH THE PROPOSED REGULATIONS?

Municipal dischargers would not be eligible for tax breaks, as they are tax exempt. Industrial dischargers may be eligible depending on state programs available to them.

4.11 REQUIREMENTS TO REJECT, AS INFEASIBLE, NON-DISCHARGE/ LOAD-REDUCTION ALTERNATIVES THREATEN SERIOUS AND SEVERE BURDENS ON COMMUNITIES.

The Commission policy is to discourage direct discharges to SPW, a classification that is assigned primarily to the main-stem Delaware River. The Commission's authority for this policy comes from the Compact and is independent of state or federal authority. *See* 1.38 above. Sections 3.10.3A.2.c.1) and 2) of the SPW regulations require the sponsor of a new or expanded wastewater discharge directly to SPW to evaluate the technical and

financial feasibility of both (a) alternatives to a direct discharge and (b) natural treatment alternatives. Determination of technical and financial infeasibility occurs on a case-by-case basis, taking into consideration local conditions such as availability of land, soil types, degree of treatment required, local economic conditions and other factors. In applying the "technical and financial feasibility" standard the Commission will look first at the technical feasibility of alternatives. If there is found to be a technically feasible alternative, the Commission will consider a demonstration by the applicant that the alternative is financially infeasible. Demonstrations by urban discharges need not be burdensome. Sponsors of urban discharges that lack access to land for natural treatment processes will be able to make such demonstrations at the time they perform their facility planning analysis. The Commission may consider as guidance but will not as a rule require consistency with the EPA's *Appendix to the Water Quality Standards Handbook – Second Edition: Interim Economic Guidance for Water Quality Standards* (EPA- 823-B-95-002, March 1995). Within each of the no-discharge and natural treatment alternative categories of the hierarchy, a discharger may select the technical alternative that the discharger finds most cost effective.

4.12 WILL THE SPW DESIGNATION INCREASE COSTS OF LIVING TO LONG-TIME AND NEW RESIDENTS OF DEVELOPING AREAS?

The Special Protection Waters classification should not significantly increase costs of living in the Lower Delaware. The cost to long-time residents is likely to be limited if they are served by an existing treatment facility. This is so because existing wastewater treatment plants that are not undertaking "Substantial Alterations or Additions" as defined by the rule are subject only to requirements with relatively minor costs such as those for remote alarms for plants not monitored 24 hours every day, standby power facilities, and the requirement that an emergency management plan be put in place. At the point when a facility owner or operator undertakes "Substantial Alterations or Additions", the investment-backed expectations of the facility likely have been realized, and the cost of compliance with SPW treatment requirements will be the marginal cost of applying better technology than might otherwise be used. In some cases, natural treatments of wastewater effluent and stormwater can be used to balance the hydrology of an area by providing additional groundwater recharge and can create opportunities to improve riparian and wildlife habitat. Overall, the Commission believes that high quality waters are an asset that will enhance the economic health of Lower Delaware communities.

4.13 FOR MUNICIPAL TREATMENT FACILITIES, INCREASES IN TREATMENT PLANT CAPACITY WOULD REQUIRE A COSTLY REVIEW PROCESS TO JUSTIFY THAT "NO MEASURABLE CHANGE" WILL OCCUR.

There are at least three approaches to determining whether development of a new or expanding project will result in measurable change to existing water quality, two of which are not costly to perform:

- If a project can be designed to "hold the load" discharged at the time of SPW classification, no further analysis is required.

- A simple dilution calculation demonstrating no measurable change at a Boundary Control Point may be sufficient. In such instances, a mass balance equation solved for concentration at the BCP will furnish an acceptable estimation of water quality.

- A mixing zone model may be prepared. This approach tends to be more costly than the other two but may be necessary to demonstrate that the receiving stream is not adversely affected by an incremental load.

4.14 COMPLYING WITH BDT REQUIREMENTS, LIMITING DISCHARGE LOADINGS, AND PROHIBITION OF CERTAIN TREATMENT TECHNOLOGIES WILL FORCE MUNICIPALITIES TO FACE CONSIDERABLE ECONOMIC RAMIFICATIONS, AND MAY PREVENT ACCEPTANCE OF NEW CONNECTIONS FROM UN-SEWERED AREAS.

When existing wastewater treatment facilities within the drainage area to SPW undertake "Substantial Alterations or Additions" as defined by the rule, they may be required to employ more advanced treatment technologies than they otherwise might, in order to protect existing water quality. Until "Substantial Alterations or Additions" as defined by the rule are proposed, however, an existing facility can accept up to its NPDES-permitted flow and load – including the treatment of waste from previously un-sewered areas – without triggering additional treatment requirements.

The cost of complying with SPW treatment requirements likely will be marginally higher than if the SPW requirements were not in effect. In general, the marginal cost of SPW treatment will vary among existing facilities depending on the NPDES permit or docket limits applicable to the plant, the technology employed, the location of the discharge – e.g., whether it is located on the main stem or on a tributary, and if the latter, its proximity to the main stem confluence – the availability of direct discharge/load reduction alternatives (if applicable), the availability of natural treatment alternatives, whether a new or expanded facility is constructed, the composition and quantity of wastewater sent to the facility and other factors. In return for the added investment, communities within the drainage area to SPW will have the ongoing assurance of high water quality, with accompanying benefits to the region's economy and quality of life.

4.15 THIS RULEMAKING ACTION WILL CAUSE SIGNIFICANT CONFUSION AND UNNECESSARY COSTS ON ALREADY OVERBURDENED COMMUNITIES.

The SPW rule has multiple features intended to mitigate the cost of compliance, as set forth in response to 1.28 above, and is intended to preserve interstate waters of extremely high value that contribute to the region's economy and quality of life. The states and

DRBC will cooperate closely in implementing the requirements to avoid confusion on the part of applicants.

BURDEN ON REGULATORY PROCESS

4.16 WILL THE STATES ALONG THE LOWER DELAWARE HAVE A BURDEN IN REVIEWING HUNDREDS OF ADDITIONAL INDIVIDUAL PERMITS ANNUALLY FOR STORMWATER FROM CONSTRUCTION PROJECTS IF THIS REDESIGNATION IS MADE?

Stormwater permitting is implemented by the U.S. Environmental Protection Agency (EPA) through the states. EPA's Phase II Storm Water Program requires states to develop a federally-approved program for stormwater, using municipal separate storm sewer systems (MS4s) to reduce the pollutants associated with runoff. Because these programs are implemented at the municipal level, many municipalities in the Lower Delaware will have an obligation to review and enforce stormwater plans for project construction, irrespective of SPW classification. States also have flexibility to utilize general permits in lieu of individual permits. The Commission does not determine what general permits are issued or how they are used. States that choose to incorporate Special Protection Waters requirements into general permits can potentially achieve efficiencies for both agencies by doing so.

4.17 WOULDN'T IMPLEMENTATION OF THE PROPOSED RULE REINSTITUTE THE SAME MULTI-AGENCY PERMITTING THAT THE CWA WAS MEANT TO ELIMINATE?

The proposed rule does not create a new permitting authority or procedure beyond those already authorized by the *Delaware River Basin Compact* and DRBC's *Water Quality Regulations*. DRBC has responsibility under Section 3.8 of the *Delaware River Basin Compact* to review for consistency with its comprehensive plan all projects that may have a substantial effect on the water resources of the Basin. Since 1992, the Commission's comprehensive plan and *Water Quality Regulations* have included the SPW program. The basin states have separate authority to administer the NPDES program established by the Federal Clean Water Act. In accordance with the SPW regulations, each state shares responsibility for implementing the SPW program by assuring "to the extent possible, that existing water quality in Special Protection Waters is not measurably changed by pollution discharged into the intrastate tributary watersheds within its jurisdiction." WQR § 3.10.3 A.2.f.1). The Commission coordinates with and assists the states in implementing the program so as to minimize duplication of effort.

4.18 NJ AND PA MUNICIPALITIES SHOULD BE EXEMPT FROM SECTION 3.10.3A.2.e UNDER EXCEPTION e.1)(a) BECAUSE OF THE STATES' WORK IN ADMINISTERING MUNICIPAL NON-POINT SOURCE PROGRAMS.

Projects located in municipalities that have adopted and are actively implementing non-point source/stormwater control ordinances that have been approved by the Commission

are exempt by section 3.10.3A.2.e.1)(d) from the requirement that the project sponsor submit a non-point source pollution control plan (NPSPCP) for Commission approval prior to docket issuance. To make an exception for municipalities that have not taken these steps but have the authority and in some instances a legal obligation to do so would frustrate one of the primary goals of the regulations – the control of non-point sources of pollution to the Lower Delaware. It is expected that the rule will encourage applicants to work together with developers and municipalities to prepare and implement effective non-point source pollution control plans for new development.

4.19 WOULD THE PROPOSED RULE NECESSITATE ALL TRIBUTARY WETLANDS BEING CLASSIFIED AS EXCEPTIONAL VALUE WETLANDS?

Delaware River tributary wetland designations are not affected by the July 16, 2008 SPW program amendments. The amendments classified the main stem Delaware River from River Mile 209.5 to RM 133.4 as Special Protection Waters on a permanent basis and established numerical values for existing water quality for these waters.

V. Additional Needs/ Future Actions

5.1 ALL TRIBUTARIES TO THE LOWER DELAWARE RIVER (INCLUDING SMALL ONES) SHOULD BE MONITORED AND HAVE ESTABLISHED BOUNDARY CONTROL POINTS.

Boundary Control Points (BCPs) have been established upon significant tributaries that have the greatest potential to affect water quality in the main stem Lower Delaware River, as well as a number of small streams of local and regional interest. Although establishing existing water quality (EWQ) at every tributary is desirable, doing so is impracticable because of resource constraints. It may be possible in the future to establish control points on additional tributaries if sufficient funding becomes available, and in that event, DRBC would be pleased to partner with local interests to establish additional BCPs.

5.2 DRBC SHOULD QUICKLY UPGRADE ITS BEST MANAGEMENT PRACTICES MANUAL.

DRBC does not have a Best Management Practices manual for the design of non-point source pollution/stormwater-related best management practices (BMPs) and has no plans to develop one. When the Commission adopted the SPW regulations for non-point sources in 1994, in order to avoid duplication of effort, it decided to rely upon existing BMP guidance contained in handbooks, manuals, and other documents prepared by the member state environmental agencies. New Jersey (2004), Pennsylvania (2006) and New York all have stormwater BMP design manuals to accompany their Stormwater Phase II programs required by the Clean Water Act. The Philadelphia Water Department developed an urban stormwater BMP manual in 2005, containing guidance for urban

stormwater BMPs. The Commission believes that the continued use of existing stormwater BMP design manuals is appropriate.

DRBC is developing an SPW Guidance Manual for the review of Special Protection Waters projects. When the manual is complete, staff will use it as the basis for information sessions for state staff, project sponsors and consultants.

5.3 DRBC SHOULD USE THE DATA IT HAS COLLECTED TO PRIORITIZE LOWER DELAWARE RIVER WATERSHEDS AND TRIBUTARIES IN NEED OF IMPROVEMENT.

Supporting technical documentation for the SPW amendments approved on July 16, 2008, consisting in relevant part of the *Lower Delaware Monitoring Program: 2000-2003 Results and Water Quality Management Recommendations* (DRBC, August 2004) and the *Lower Delaware Eligibility Determination for DRBC Declaration of Special Protection Waters* (DRBC, August 2004), include water quality based prioritization of tributaries. DRBC also is working to characterize land use, develop water quality models, and build capacity for development and implementation of local watershed management plans by state, county, municipal and non-governmental entities in the Lower Delaware Watershed to address conditions in need of improvement.

5.4 THERE IS A NEED TO BUILD WATERSHED PARTNERSHIPS, INCLUDING MEMORANDA OF UNDERSTANDING, WITH THE STATES AND THE NATIONAL PARK SERVICE, IN IMPLEMENTING THE PROPOSED REGULATION.

Watershed partnerships are a key part of implementing the Lower Delaware Special Protection Waters program. Administrative agreements between DRBC and the States are being reviewed and revised to better implement the SPW rules, and partnership with the National Park Service for water quality monitoring is being discussed. In addition, a project review manual for applications in the drainage area to SPW is being prepared.

5.5 DRBC SHOULD COORDINATE BEST DEMONSTRABLE TECHNOLOGY STANDARDS WITH NEW JERSEY'S AND PENNSYLVANIA'S ANTIDEGRADATION PROGRAMS (FOR C-1 AND HIGH QUALITY/EXCEPTIONAL VALUE WATERS, RESPECTIVELY) TO INSURE THE HIGHEST PROTECTION.

In the SPW context, Best Demonstrable Technology (BDT) is the minimum level of treatment required for new direct discharges to SPW. When an existing facility discharging directly to SPW undergoes "Substantial Alterations or Additions" as defined by the rule, BDT is required for any incremental load in excess of that actually discharged at the time of SPW designation (December 9, 1992 for the Middle and Upper Delaware and January 19, 2005 for the Lower Delaware). The effluent criteria that define Best Demonstrable Technology (BDT) were established by the Commission in 1992

when DRBC originally adopted the SPW program for point source discharges. Although treatment technologies have advanced since that year, these BDT criteria have been retained for the limited purposes of the SPW program. The Commission elected not to propose changes to BDT as part of the amendments approved on July 16, 2008. If the Commission decides to propose changes to its definition of BDT in the future it will conduct notice and comment rulemaking on such proposed changes. BDT as defined by the rule may be superseded, however, by applicable federal, state or DRBC criteria that are more stringent.

5.6 DRBC SHOULD, LIKE NJ (FOR C-1 WATERS), REQUIRE A 300-FOOT BUFFER FOR SPECIAL PROTECTION WATERS.

DRBC's SPW regulations have not historically required minimum buffers requirements. Although buffers may be an effective stormwater management tool, the purposes of the July 16, 2008 rulemaking were limited to extending the protections of DRBC's existing SPW program to the Lower Delaware River and clarifying aspects of the program that have caused confusion in the past. The Commission did not wish at this time to consider major program modifications, such as the addition of a buffer requirement.

5.7 DRBC SHOULD ADOPT NUTRIENT CRITERIA AND NUMERIC BIOCRITERIA.

DRBC is currently implementing a monitoring program intended to inform the development of biocriteria for the non-tidal portion of the Delaware River. At present, the Delaware River Biomonitoring Program is evaluating six years of macroinvertebrate data and working with the U.S. EPA Office of Research and Development to model biological processes in the river, quantify biological responses to various stressors, and develop biological criteria for consideration by the Commission. As to nutrients, DRBC has produced and presented to its Water Quality Advisory and Monitoring Advisory committees a draft nutrients strategy for the Delaware River and Estuary that could eventually lead to the establishment of nutrient criteria. The biocriteria and nutrient programs are separate from the Commission's SPW program, which is an antidegradation program.

5.8 DRBC SHOULD REQUIRE NO MEASURABLE CHANGE IN ALL TRIBUTARY STREAM REACHES WHERE STANDARDS ARE MET, AND IMPROVEMENT OF ALL TRIBUTARY STREAM REACHES WHERE IMPAIRMENT EXISTS.

DRBC water quality regulations require that Special Protection Waters, which consist of the main stem non-tidal river from Hancock, New York to Trenton, New Jersey, and short reaches of certain tributaries in the Middle Delaware region, not be degraded below existing water quality (EWQ) as defined in Tables 1 and 2 of the regulation. Within the Special Protection Waters, numeric values for existing water quality have been established for Interstate Control Points along the main stem of the river and at Boundary

Control Points on the tributaries, near their confluence with the main stem. Except for those short reaches of certain tributaries in the Middle Delaware region, tributaries to the SPW are not classified as SPW and thus are not themselves subject to the policy of no measurable change except toward natural conditions. Because projects located on the tributaries to SPW must ensure no measurable change to water quality at the Boundary Control Points, however, the quality of reaches immediately above the control point may be inadvertently protected. Otherwise, improvement of tributary reaches where impairment has been found is the responsibility of the state. States typically use criteria-based programs implemented through NPDES permits to address impairments to tributary waters.

5.9 DRBC SHOULD REQUIRE THAT EWQ AND NMC ARE MET AT THE POINT OF DISCHARGE, NOT ONLY AT CONTROL POINTS.

In Outstanding Basin Waters, where no mixing zones are allowed, the requirement for no measurable change (NMC) to existing water quality (EWQ) except toward natural conditions does apply at the point of discharge. In Significant Resource Waters, the requirement for no measurable change to existing water quality is applied at water quality control points, which are located on tributaries just above the main stem confluence (Boundary Control Points) or within the main stem (Interstate Control Points). Mixing zones provide sufficient flexibility in the SPW program to allow for the development of projects deemed to be in the public interest, without economic hardship.

5.10 GUIDANCE MANUAL SHOULD INCLUDE PROCEDURES FOR DEVELOPING EWQ AT SITES WITH NO DATA; ADDING NEW PARAMETERS TO EXISTING SITES; AND STATISTICALLY VALID ASSESSMENT PROTOCOLS WITH RECOMMENDED WATER QUALITY METHODS.

The Commission agrees. It is noted that the Commission has issued numerous dockets for discharges on tributaries to SPW that lacked established Boundary Control Points. The Commission's guidance manual will include a discussion of the procedures to be used in such cases.

5.11 AS STATED IN PHILADELPHIA WATER DEPARTMENT'S DELAWARE RIVER SOURCE WATER PROTECTION PLAN (2007), PWD REQUESTS THE ENHANCEMENT OF THE SPW REGULATIONS TO PROTECT WATER SUPPLIES FROM CRYPTOSPORIDIOSIS BY REQUIRING ". . . WASTEWATER TREATMENT PLANT DISCHARGERS WITHIN THE DELAWARE RIVER WATERSHED TO PERFORM YEAR-ROUND DISINFECTION . . ."

The Commission's basin-wide regulations were amended by Resolution No. 86-8 on May 28, 1986 to allow state disinfection requirements to control in the tributary waters, as long as such requirements protect water quality in the Delaware River. The purposes of the July 16, 2008 rulemaking were limited to extending the protections of DRBC's

existing SPW program to the Lower Delaware River and clarifying aspects of the SPW program that have caused confusion in the past. The Commission did not wish at this time to consider major program modifications, such as requirement for year-round disinfection proposed by the PWD.

5.12 DRBC SHOULD PROTECT WATER SUPPLIES FROM LAND USE CHANGE BY INCLUDING ". . . FOREST AND CANOPY PROTECTION INTO EXISTING NON-POINT SOURCE POLLUTION REGULATIONS."

Again, the Commission's purpose in the July 16, 2008 rulemaking was not to create a new regulatory regime or to substantially re-make an existing one. The Special Protection Waters Program has been implemented in the drainage area to the upper and middle portions of the non-tidal Delaware River since 1992 for point sources and since 1994 for non-point sources. The limited purpose of the current rulemaking was to extend SPW protections downstream to include the lower portion of the non-tidal Delaware River, in response to documented evidence that this section of the river also possesses water quality, water supply, ecological, scenic and recreational values that merit protection, and to clarify aspects of the rule that have caused confusion in the past. The commenter's proposal is outside the scope of this initiative.

5.13 HOW DOES A GROUP OR AN INDIVIDUAL PARTICIPATE IN THE REVIEW PROCESS OF THE DEVELOPMENT OF A WATER QUALITY MODEL FOR THE LOWER DELAWARE?

A water quality model developed to support a Commission staff recommendation in connection with a docket approval is subject to public comment during the comment period for the docket. The Commission staff is currently developing water quality models for the Lower Delaware River and the Lehigh River, which will assist in evaluating applications. From time to time, information regarding the modeling development process may be made available on the Commission website. Interested parties can also contact John Yagecic of the Commission's Modeling, Monitoring and Assessment Branch regarding the progress of these models.

Design wastewater treatment plant loadings are usually not reached for several years after new or expanding loads are proposed. Thus, decreases or increases to permit and/or docket limits may still be made if an approved model later demonstrates that initially assigned loads and/or effluent limits are either too conservative or would result in a measurable change.

APPENDIX I

Resolution No. 2008-9

A RESOLUTION amending the *Water Quality Regulations, Water Code* and *Comprehensive Plan* by permanently designating the Lower Delaware River as Special Protection Waters with the classification Significant Resource Waters.

NO. 2008 – 09

A RESOLUTION to amend the *Water Quality Regulations, Water Code* and *Comprehensive Plan* by permanently designating the Lower Delaware River as Special Protection Waters with the classification Significant Resource Waters.

WHEREAS, by Resolution No. 70-3, codified in the Commission's *Water Quality Regulations* at Section 3.10.3 A., the Commission established an antidegradation policy for interstate waters within its jurisdiction, and by Resolutions No. 92-21 and 94-2, it instituted a set of regulations known as the "Special Protection Waters" program to implement this policy in certain portions of the Basin. The program is intended to maintain or improve the quality of interstate waters where existing water quality is better than the established stream quality objectives; and

WHEREAS, in accordance with Section 3.10.3 A.2 of the Commission's *Administrative Manual– Part III, Water Quality Regulations* ("Regulations"), the Delaware Riverkeeper Network submitted to the Commission in April 2001 a nomination petition requesting that the Commission classify the Lower Delaware River – the reach of the main stem Delaware River extending from River Mile 209.5 (the downstream boundary of the Delaware Water Gap National Recreation Area) to River Mile 133.4 (the Head of Tide) – as Special Protection Waters; and

WHEREAS, to be protected as Special Protection Waters, waters must be classified as either "Outstanding Basin Waters" or "Significant Resource Waters," as defined in Section 3.10.3 A.2.a. of the Regulations; and

WHEREAS, "Outstanding Basin Waters" are defined as interstate and contiguous intrastate waters that are contained within the established boundaries of national parks; national wild, scenic and recreational rivers systems; and/or national wildlife refuges that the Commission has classified under Section 3.10.3 A.2.g.1 of the Regulations as having exceptionally high scenic, recreational and ecological values that require special protection; and

WHEREAS, "Significant Resource Waters" are defined as interstate waters that the Commission has classified under Section 3.10.3 A.2.g.2 of the Regulations as having exceptionally high scenic, recreational, ecological, and/or water supply uses that require special protection; and

WHEREAS, as set forth more fully in Resolution No. 2005-2, data and findings documenting the high quality of scenic, recreational, ecological and water supply attributes of the Lower Delaware River are contained in two studies (DRBC, 2004 and National Park Service, 1999, respectively), a management plan for the Lower Delaware that received a formal expression of Commission support in Resolution No. 98-2 (1997) (this plan was recently re-affirmed in the *Lower Delaware River Management Committee Action Plan 2007-2011*); a federal designation of the Lower Delaware as part of the national Wild & Scenic Rivers System (P.L. 106-418, 106th Congress), and the *Water Resources Plan for the Delaware River Basin* (DRBC, 2004); and

WHEREAS, after a duly noticed public comment period and a public hearing on the matter, by Resolution No. 2005-2 on January 19, 2005 the Commission found on the basis of the foregoing studies, findings, plans, and federal designation that "the section of the Delaware River from River Mile 133.4 to River Mile 209.5, known as the "Lower Delaware River", is characterized by exceptionally high scenic, recreational, ecological and/or water supply values/uses within the meaning of Section 3.10.3 A. of the *Water Quality Regulations* and requires special protection in accordance with that section" (Res. No. 2005-2, par. 1); and

WHEREAS, by Resolution No. 2005-2 the Commission temporarily classified the Lower Delaware River (also "Lower Delaware") as Significant Resource Waters, pending the determination of numeric values for existing water quality for this section of the river and a thorough evaluation of these data to determine whether or not to classify certain sections of the Lower Delaware as Outstanding Basin Waters and whether to make the temporary Special Protection Waters designation permanent for some or all of the Lower Delaware; and

WHEREAS, in the course of designating the Lower Delaware as Special Protection Waters the Commission determined that it would clarify certain provisions of the SPW rule to ensure the rule's uniform application in all parts of the basin in which the rule is applied; and

WHEREAS, to allow the Commissioners and staff time to evaluate implementation options and develop language to clarify aspects of the rule, the Commission extended temporary designation of the Lower Delaware by resolutions No. 2005-15 (extension through September 30, 2006), No. 2006-22 (extension through September 30, 2007) and No. 2007-13 (extension through May 15, 2008), before they caused to be published in October of 2007 in the *Federal Register* and in the Delaware, New Jersey, New York and Pennsylvania registers a new Notice of Proposed Rulemaking to Amend the *Water Quality Regulations, Water Code* and *Comprehensive Plan* to classify the Lower Delaware River as Special Protection Waters; and

WHEREAS, the Commission has determined values for existing water quality for the Lower Delaware, enabling the Commission for the first time to require applicants for new wastewater treatment facilities or for substantial alterations or additions to existing facilities to demonstrate that their new or increased discharges will cause no measurable change to existing water quality except toward natural conditions at a set of established water quality control points; and

WHEREAS, the Commission established a public comment period on the proposed amendments to run through December 6, 2007; it held informational meetings in Stockton, New Jersey on October 25, 2007 and in Easton, Pennsylvania on November 1, 2007; it made presentations on the proposed rule at a series of professional conferences as well as at meetings hosted by citizens' groups and elected officials within the affected regions; and it held a public hearing on the proposal on December 4, 2007; and;

WHEREAS, between September of 2004, when the Commission issued its first public notice of proposed rulemaking to classify the Lower Delaware River as Special Protection Waters, and December 6, 2007, when the comment period closed on the amendments noticed formally in October of 2007, the Commission received thousands of comments from residents, elected officials, treatment plant operators, and administrative agencies, of which the majority constituted petitions and letters in support of the action, and of which approximately three dozen expressed objections to it; and

WHEREAS, during the months of February through July of 2008 Commissioners and Commission staff participated in additional meetings and conference calls at the request of interested parties in order to listen first-hand to the concerns that some constituents raised in written comments submitted during the comment period; and

WHEREAS, the Commissioners and staff have painstakingly sorted, categorized reviewed and prepared written responses to these comments, and in a number of instances have revised the proposed amendments to address concerns raised by commenters and to improve the rule's clarity, especially as applied to existing facilities; and

WHEREAS, extending the full Special Protection Waters program to the Lower Delaware River on a permanent basis will afford these interstate waters the same uniform high standard of protection that has preserved water quality in the Upper and Middle Delaware for approximately 15 years – a standard of protection that could not be achieved by the Commission's member states acting independently of one another; and

WHEREAS, the Commission will reevaluate the Best Demonstrable Technology (BDT) requirements of the rule in light of wastewater technologies developed since the BDT requirements were initially promulgated in 1992, and will consider among other things the effects of employing wastewater technologies on other media, greenhouse gas emissions and energy demands; now therefore,

BE IT RESOLVED by the Delaware River Basin Commission:

1. The section of the non-tidal Delaware River known as the "Lower Delaware" between River Miles 209.5 (the downstream boundary of the Delaware Water Gap National Recreation Area) and 134.4 (the Calhoun Street Bridge near the Head of Tide at Trenton, New Jersey), is hereby classified as Significant Resource Waters.

2. The Commission's *Water Quality Regulations* and *Water Code* are amended as set forth in the attached, effective upon filing with each of the signatory parties in accordance with Section 14.2 of the *Delaware River Basin Compact*.

3. As of their effective date, these amendments are hereby incorporated in the Commission's *Comprehensive Plan.* All aspects of the rule shall be in effect for classified reaches, including the Lower Delaware, in accordance with the amended provisions and including without limitation those requirements that depend for implementation upon the determination of numeric values for existing water quality.

4. Temporary classification of the Lower Delaware River as Significant Resource Waters in accordance with Resolution No. 2005-2 and as extended by resolutions No. 2005-15, No. 2006-22, No. 2007-13, and No. 2008-3 is hereby continued and shall remain in effect until these amendments to the Water Quality Regulations and Water Code are filed in accordance with Section 14.2 of the *Compact* and a notice of final rulemaking has appeared in the *Federal Register*.

5. The Commission's Comment and Response Document, containing detailed responses to written and oral comments submitted on the proposed amendments, shall be finalized and made a part of the official rulemaking record for this action and shall be available for public inspection not later than upon the filing of these amendments with each of the signatory parties in accordance with Section 14.2 of the *Compact*.

/s/ Michele Putnam
Michele Putnam, Chairwoman *pro tem*

/s/ Pamela M. Bush
Pamela M. Bush, Esquire, Commission Secretary

ADOPTED: July 16, 2008

THE AMENDMENTS TO SECTION 3.10.3 A. OF THE COMMISSION'S ADMINISTRATIVE MANUAL – PART III, WATER QUALITY REGULATIONS ARE SET FORTH BELOW. ADDITIONS APPEAR IN **RED BOLD FACE TYPE**. DELETIONS APPEAR IN **[RED BOLD FACE TYPE WITHIN BRACKETS]**. **UNDERSCORE** INDICATES CHANGES THAT DID NOT ACCOMPANY THE NOTICE OF PROPOSED RULEMAKING [I.E., THAT WERE MADE IN RESPONSE TO COMMENTS RECEIVED].

2. **Special Protection Waters.**

It is the policy of the Commission that there be no measurable change in existing water quality except towards natural conditions in waters considered by the Commission to have exceptionally high scenic, recreational, ecological, and/or water supply values. Waters with exceptional values **may [could]** be classified by the Commission as **either** Outstanding Basin Waters or Significant Resource Waters.

In determining waters suitable for classification as Special Protection Waters, the Commission will consider nomination petitions from local, state and federal agencies and governing bodies, and the public for waters potentially meeting the definition of Outstanding Basin Waters and Significant Resource Waters as described in 3.10.3A.2.a.

The following policies shall apply to waters classified by the Commission as Outstanding Basin Waters or Significant Resource Waters and their drainage areas:

a. Definitions

1) "Outstanding Basin Waters" are interstate and contiguous intrastate waters that are contained within the established boundaries of national parks; national wild, scenic and recreational rivers systems; and/or national wildlife refuges that are classified by the Commission under Subsection 2.g.1) hereof as having exceptionally high scenic, recreational, and ecological values that require special protection.

2) "Significant Resource Waters" are interstate waters classified by the Commission under Subsection 2.g.2) hereof as having exceptionally high scenic, recreational, ecological, and/or water supply uses that require special protection.

3) "Existing Water Quality" **for purposes of the Special Protection Waters program is defined for a limited set of parameters, consisting of those listed in Tables 1 and 2. Existing water quality is defined in Table 1 for stream reaches between Hancock, New York and the Delaware Water Gap and in Table 2 for stream reaches between the Delaware Water Gap and Trenton, New Jersey. Where existing water quality is not defined in Tables 1 and 2, existing water quality may be defined by extrapolation from the nearest upstream or downstream Interstate Control Point, from data obtained from sites within the same ecoregion, or on the basis of best scientific judgment. [is defined as the actual**

concentration of a water constituent at an in-stream site or sites, as determined through field measurements and laboratory analysis of data collected over a time period determined by the Commission to adequately reflect the natural range of the hydraulic and climatologic factors which affect water quality. Existing water quality shall be described in terms of (a) an annual or seasonal mean of the available water quality data, (b) two-tailed upper and lower 95 percent confidence limits around the mean, and (c) the 10th and 90th percentiles of the data set from which the mean was calculated. Where available data are insufficient to determine existing water quality, existing water quality may be estimated from data obtained from sites within the same ecoregion or from best scientific judgment.]

4) "Measurable Change **to Existing Water Quality**" is defined as an actual or estimated change in a **seasonal or non-seasonal** mean **(for SPW waters upstream of and including River Mile 209.5[*]) or median (for SPW waters downstream of River Mile 209.5) [(annual or seasonal)]** in-stream pollutant concentration that is outside the range of the two-tailed upper and lower 95 percent confidence **[limits] intervals** that define existing water quality. **[In the absence of adequate available data, background concentrations will be assumed to be zero and "measurable change" will be based on in-stream concentrations greater than the detection limit for each parameter, based on the lowest limit of the most sensitive technique specified in 40 CFR Part 136.]**

5) "Public Interest" is a determination of all the positive and negative social, economic and water resource impacts associated with a project affecting a Significant Resource Water. A project that is in the public interest is one that, at a minimum, provides housing, employment, and/or public facilities needed to accommodate the adopted future population, land use, and other goals of a community and region without causing deleterious impacts on the local and regional environment and economy. In general, such a project would be one that conforms to a locally-adopted growth management plan which is undergoing active implementation by local officials, is supported by the larger community as a whole, and is compatible with national, state and regional objectives as well. For a project not fully meeting the above criteria, the Commission will weigh the positive and negative impacts to determine public interest.

6) "Regional Resources Management Plan" is a management plan developed and adopted by the government agency that is assigned primary responsibilities for the overall management of a National park, scenic and recreational river and/or wildlife refuge which contains waters that have been

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[*] River Mile 209.5 is the downstream boundary of the Delaware Water Gap National Recreation Area. SPW waters upstream of and including this point received SPW designation in 1992 and SPW waters below this point received SPW designation in 2005. The water quality strategy used to support the later designation differed from that employed a decade earlier.

classified by the Commission as Outstanding Basin Waters. A regional resources management plan is one that addresses, among other subjects, the location and general size of allowable wastewater treatment facilities. A regional resources management plan, or applicable portions thereof, may be incorporated into the Commission's Comprehensive Plan.

7) "Natural Condition" is the ecological state of a water body that represents conditions without human influence.

[8) "Detection limit" is the lowest level of a substance that can be measured in natural waters by a specific analytical method. Detection limit as defined herein, corresponds to the most currently-acceptable values for parameter specific detection limits as specified in 40 CFR Part 136.]

8[9]) "Non-discharging/Load Reduction Options" are options whereby the amount of wastewater discharged to a surface stream is reduced by (a) instituting load reduction measures involving reductions in pollutants at the source**,** possibly accompanied by water conservation practices to reduce the amount of flow received at a wastewater treatment plant; and/or (b) using land-based wastewater disposal whereby treated wastewater effluent is further treated by percolation and other soil-based processes instead of in-stream processes.

9[10]) "Natural Wastewater Treatment Systems" are soil-based, vegetative and/or aquatic wastewater treatment systems characterized by the use of low energy treatment processes that use and simulate "natural" environmental processes such as primary and secondary productivity, crop production, wetlands, ponds and others.

10[11]) "Non-Point Sources" are sources of pollutants carried by surface and sub-surface runoff that are derived from human activities and land use.

11[12]) "Cumulative Impact" is the net sum of all individual impacts including all point and non-point source impacts.

12[13]) "Boundary Control Points" are locations where monitoring and other activities occur to determine existing water quality, no measurable change, and related pollution control requirements as applicable. Boundary Control Points for Outstanding Basin Waters will generally correspond to federally-established boundaries for National parks, etc. while those for Significant Resource Waters will generally correspond to the confluence of an intrastate tributary with the classified interstate water. **The locations of Boundary and Interstate Control Points are described in Part C of Table 1 for the reach between Hancock, N.Y. and the Delaware Water Gap and in Tables 2A and 2B for the reach between the Delaware Water Gap and Trenton, N.J.).**

13[14]) "Interstate **[Special Protection Waters]** Control Points" are general locations used to assess water quality for purposes of defining and protecting Existing Water Quality. **The locations of Boundary and Interstate Control Points are described in Part C of Table 1 for the reach between Hancock, N.Y. and the Delaware Water Gap and in Tables 2A and 2B for the reach between the Delaware Water Gap and Trenton, N.J.).**

14[15]) "Growth Management Plans" are locally developed and adopted plans expressing the social, economic, and environmental goals and objectives of the local community. A growth management plan in this context can be one plan, a series of plans, local ordinances, and other official documents of a municipality. Growth management plans outline the community's desired growth patterns and related infrastructure. To be considered in the Commission's determination of public interest, growth management plans must be undergoing active implementation and forming the basis for local governmental decisions.

15[16]) **An** "Expanding Wastewater Treatment Project" **is [refers to] a project involving either (a)** alterations or additions to **an** existing wastewater treatment **facility [facilities]** that result in a reviewable project in accordance with the Commission's *Rules of Practice and Procedure***;** or **(b) a [any]** new **load** or increased **flow or** loading from an existing facility that was not **included in a NPDES permit or docket effective on the date of SPW designation [anticipated at the time of NPDES permit issuance]**.

16) "Substantial Alterations or Additions" are those additions and alterations resulting in: (a) a complete upgrade or modernization of an existing wastewater treatment plant, including substantial replacement or rehabilitation of the existing wastewater treatment process or major physical structures such as headworks, settling tanks, and biological/chemical treatment [or] and filtration tanks, whether conducted as a single phase or a multi-phased project or related projects; or (b) a new load or increased flow or loading from an existing facility that was not included in a NPDES permit or docket effective on the date of SPW designation. Among other projects, modifications made solely to address wet weather flows; and alterations that are limited to changes in the method of disinfection and/or the addition of treatment works for nutrient removal are not deemed to be "Substantial Alterations or Additions."

17) "Load" and "loading" are used interchangeably in these regulations and refer to the amount of a substance or material, expressed as a weight per unit time (pounds per day, for example), that is discharged from a facility.

18) "Incremental load" and "incremental loading" are used interchangeably in these regulations and refer to the load that is greater than the actual load discharged by a facility at the time of SPW designation.

19[17]) "Best Management Practices" are any structural or non-structural measure designed to reduce stormwater runoff and resulting non-point source loads.

20[18]) "Watershed Non-Point Source Management Plan" is a plan prepared for a watershed that describes the basis for, and overall control strategy of, a plan for controlling, limiting, and abating all relevant non-point source loadings within the watershed. The plan will identify and assess important natural and anthropogenic features and influences on water quality; existing local, state and other non-point source control programs; potential non-point source loads on Special Protection Waters; watershed-specific protection requirements; and the institutional needs and arrangements required to implement the plan.

21[19]) "Non-Point Source Pollution Control Plan" is a plan describing the Best Management Practices to be used at the project site and in the project service area to control increases in non-point source pollutant loadings resulting from the project.

22[20]) "Priority Watershed" is a watershed that has been evaluated in conjunction with other watersheds draining to Special Protection Waters and designated by the Commission as having a substantial potential pollution impact on the water quality of Special Protection Waters in comparison with other watersheds.

b. **No Measurable Change to Existing** Water Quality **[Management Policies]**

1) Outstanding Basin Waters shall be maintained at their existing water quality. Point and non-point sources of pollutants originating from outside the boundaries of stream reaches classified as Outstanding Basin Waters shall be treated as required and then dispersed in the receiving water so that no measurable change occurs at Boundary and Interstate **[Special Protection Waters]** Control Points. Point sources of pollutants discharged to Outstanding Basin Waters shall be treated as required and then dispersed in such a manner that complete mixing of effluent with the receiving stream is, for all practical intents and purposes, instantaneous.

2) Significant Resource Waters shall not be degraded below existing water quality as defined **in these regulations,** although localized degradation of water quality may be allowed for initial dilution if the Commission**, after consultation with the state NPDES permitting agency,** finds that the public interest warrants these changes. Point and non-point sources of pollutants originating from outside the boundaries of stream reaches classified as Significant Resource Waters shall be treated as required and then dispersed in the receiving water so that no measurable change occurs at Boundary and Interstate **[Special Protection Waters]** Control Points**, unless a mixing zone is allowed in Significant Resource Waters, and then to the**

extent of the mixing zone designated as set forth in this section. If **[localized]** degradation of water quality is allowed for initial dilution purposes, the Commission**, after consultation with the state NPDES permitting agency,** will designate mixing zones for each point source and require the highest possible point **[and non-point]** source treatment levels necessary to limit the size and extent of the mixing zones. **[Mixing zone size will be based on] The dimensions of the mixing zone will be determined by the Commission after consultation with the state NPDES permitting agency based upon an evaluation of (a)** site-specific **conditions, including** channel characteristics**; (b) the cost and feasibility of treatment technologies; and (c) the design of the discharge structure**. **[In general, mixing zones should not exceed a radial distance equal to 1/4 of the width of the river under low flow design conditions] Mixing zones will be developed using the wastewater treatment facility design conditions and low ambient flow conditions** unless site-specific characteristics indicate otherwise. **Non-point sources shall be subject to the requirements of Section 3.10.3 A.2.e. for the implementation of non-point source control plans.**

c. **[Policy on]** Allowable Discharges

1. Direct discharges of wastewater to Special Protection Waters are discouraged. **[No new or expanded wastewater discharges shall be permitted in waters classified as Special Protection Waters until] The following categories of projects discharging directly to Special Protection Waters may be approved only after the applicant demonstrates that it has fully evaluated** all non-discharge/load reduction alternatives **and is unable to implement these alternatives [have been fully evaluated and rejected]** because of technical and/or financial infeasibility**: new wastewater treatment facilities and substantial alterations or additions to existing wastewater treatment facilities. When evaluating non-discharge/load reduction alternatives, the applicant shall consider alternatives to any and all loadings – both existing and proposed – in excess of actual loadings at the time of SPW designation**.

2) The following categories of projects within the drainage area of Special Protection Waters may be approved only after the applicant demonstrates that it has fully evaluated all natural wastewater treatment system alternatives and is unable to implement these alternatives because of technical and/or financial infeasibility: new wastewater treatment facilities and substantial alterations or additions to existing wastewater treatment facilities. When evaluating natural treatment alternatives, the applicant shall consider alternatives to any and all loadings – both existing and proposed – in excess of actual loadings at the time of SPW designation.

[2) The general number, location and size of future wastewater treatment facilities discharging to Outstanding Basin Waters (if any) shall be

developed taking into consideration any adopted regional resource management plan as defined in Section 3.10.3.A.2.a.6) and, on an individual project basis, based on the feasibility of non-discharging options.]

3) **[Discharges] The following categories of projects discharging directly** to Significant Resource Waters **may be approved only following a determination that the project is [shall only be allowed for circumstances which are demonstrably]** in the public interest as **that term is** defined in Section 3.10.3.A.2.a.5)**: new wastewater treatment facilities and substantial alterations or additions to existing wastewater treatment facilities**.

4) The general number, location and size of future wastewater treatment facilities discharging to Outstanding Basin Waters (if any) shall be developed taking into consideration any adopted regional resource management plan as defined in Section 3.10.3 A.2.a.6) and, on an individual project basis, considering [based on] the feasibility of non-discharge [non-discharging] /load reduction alternatives.

d. **[Policies Related to]** Wastewater Treatment Facilities

1) All wastewater treatment facilities discharging to waters classified as Special Protection Waters shall have available standby power facilities unless it can be shown that a proposed discharge can be interrupted for an extended period with no threat to the water quality of Special Protection Waters. Existing facilities must comply with this requirement upon their next permit renewal under the delegated national pollutant discharge elimination system (NPDES) permit program.

2) All wastewater treatment facilities discharging to Special Protection Waters that are not staffed 24 hours every day shall have a remote alarm that will continuously monitor plant operations whenever the plant is not staffed. The alarm system will be designed to alert someone available with authority and knowledge to take appropriate action. Existing facilities must comply with this requirement upon their next permit renewal under the delegated NPDES program.

3) All new wastewater treatment facilities discharging to Outstanding Basin Waters shall not have visual discharge plumes. Existing facilities must comply with this requirement upon their next permit renewal under the delegated NPDES program.

4) All new wastewater treatment facilities discharging to Special Protection Waters shall prepare and implement an emergency management plan following the guidance provided in the Water Pollution Control Federation's Manual of Practice SM-8, Emergency Planning for Municipal Wastewater Facilities, the U.S. EPA's Design Criteria for Mechanical, Electric and Fluid

System and Component Reliability or other suitable manuals. Emergency management plans shall include an emergency notification procedure covering all affected downstream users. Existing facilities must comply with this requirement upon their next permit renewal under the delegated NPDES program.

[5) All applicants seeking wastewater treatment project approval under Section 3.8 of the Compact shall satisfactorily prove the technical and/or financial infeasibility of using natural wastewater treatment technologies.]

5[6]) The minimum level of wastewater treatment for **the following categories of projects will be "Best Demonstrable Technology" as defined below:** all new **[and expanding]** wastewater treatment **facilities and all** projects **involving substantial alterations or additions to existing wastewater treatment facilities when the new or expanding facility discharges directly to Outstanding Basin Waters or Significant Resource Waters[, including projects approved by the Commission after September 1988, will be "Best Demonstrable Technology"]**. Equivalent effluent criteria for industrial facilities and seasonal limits, if any, will be developed on a case-by-case basis. The following 30-day average effluent criteria define Best Demonstrable Technology*****:

5-day CBOD:	10 mg/l or less
Dissolved oxygen:	6.0 mg/l or greater
Total suspended solids:	10 mg/l or less
Ammonia-nitrogen:	1.5 mg/l or less
Total nitrogen:	10.0 mg/l or less
Total phosphorus:	2.0 mg/l or less
Fecal coliform:	50/100 ml or less

*** The effluent criteria that define Best Demonstrable Technology (BDT) were established by these Regulations in 1992 when DRBC originally promulgated the Special Protection Waters regulations for point source discharges. Although treatment technologies have advanced since that year, these "BDT" criteria have been retained for the limited purposes of the SPW program. BDT as defined herein may be superseded, however, by applicable federal, state or DRBC criteria that are more stringent.**

6[7]) Best demonstrable technology for disinfection shall be ultraviolet light disinfection or an equivalent disinfection process that results in no harm to aquatic life, does not produce toxic chemical residuals, and results in effective bacterial and viral destruction.

7) For wastewater treatment facility discharge projects that satisfy applicable requirements of Sections 3.10.3 A.2.b. through d. above, the Commission may approve effluent trading on a voluntary basis between

point sources within the same watershed or between the same Interstate or Boundary Control Points to achieve no measurable change to existing water quality. Applicants seeking the Commission's approval for a trade must demonstrate equivalent load and pollutant reductions and the ability (through contracts, docket conditions, NPDES effluent limits or other legal instruments) to ensure continuous achievement of the required reductions for a term of not less than five (5) years or the time required for the point source(s) to install the treatment needed to demonstrate no measurable change to Existing Water Quality, whichever term is longer. States will be encouraged to incorporate appropriate conditions in the next NPDES permits issued to the trading dischargers.

8) For wastewater treatment facilities within the drainage area to Special Protection Waters, the actual loads and design flows included in a NPDES permit or docket effective at the time of Special Protection Waters designation ("SPW designation") may continue without triggering the additional treatment requirements and alternatives analyses required by these regulations. However, when Substantial Alterations or Additions as defined herein are proposed, although the actual discharge at the time of SPW designation remains exempt from additional requirements, the proposed expansion cannot be approved until (a) the applicant demonstrates that it has evaluated all non-discharge load reduction alternatives for all or a portion of the incremental load and is unable to implement these alternatives because of technical or financial infeasibility (for discharges directly to Outstanding Basin Waters (OBW) and Significant Resource Waters (SRW)); (b) the applicant demonstrates that it has evaluated all natural wastewater treatment system alternatives for all or a portion of the incremental load and is unable to implement these alternatives because of technical or financial infeasibility (for discharges directly to OBW and SRW and for tributary discharges); (c) the Commission has determined that the project is demonstrably in the public interest as defined herein (for discharges directly to SRW); (d) the minimum level of treatment to be provided for the incremental discharge is Best Demonstrable Technology as defined herein (for discharges directly to OBW and SRW); and (e) the applicant demonstrates that the project will cause no measurable change to Existing Water Quality as defined herein (for discharges directly to OBW and SRW and for tributary discharges).

9) For wastewater treatment facility projects subject to the no measurable change requirement, the demonstration of no measurable change to existing water quality shall be satisfied if the applicant demonstrates that the new or incremental increase in the facility's flow or load will cause no measurable change at the relevant water quality control point for the parameters denoted by asterisks in Tables 1 and 2 of this section: ammonia (NH_3 N); dissolved oxygen (DO); fecal coliform (FC); nitrate (NO_3 N) or nitrite + nitrate (NO_2 N + NO_3 N); total nitrogen (TN) or total Kjeldahl nitrogen (TKN); total phosphorus (TP); total suspended solids (TSS); and biological oxygen demand (BOD) (Table 1 only). In making

the demonstration required in the preceding sentence the applicant shall use a DRBC-approved model of the tributary or main stem watershed if available. Where a DRBC-approved model is not available, the applicant shall use other methodologies submitted to and approved in advance by the Commission to estimate cumulative effect at the applicable control point.

e. **[Policies Concerning the]** Control of Non-Point Sources

1) Projects subject to review under Section 3.8 of the Compact that are located in the drainage area of Special Protection Waters must submit for approval a Non-Point Source Pollution Control Plan that controls the new or increased non-point source loads generated within the portion of the project's service area which is also located within the drainage area of Special Protection Waters.

The plan will document which Best Management Practices described in handbooks, manuals and other documents prepared by the applicable state environmental agency that the project sponsor will use to control, to the extent possible, the non-point source loads from the project.

In approving the plan, the Commission may consider, but not require, tradeoffs, that the project sponsor might propose, between the reduction of potential new non-point source loads and (a) equivalent reductions in existing non-point source loads; (b) equivalent point source loads; and c) equivalent non-point source loads from outside the affected service area. Applicants desiring Commission approval of tradeoff strategies must provide information concerning the amount of non-point source loads to be reduced through an equivalent tradeoff process and, where necessary, the enforceable mechanisms and/or agreements required to implement the tradeoffs. Where tradeoffs have been approved, control measures for existing non-point sources must be substantially in-place prior to project operation.

The **[Commission] Executive Director** may, upon agreement with the state, delegate review and approval responsibilities under this section to the appropriate state environmental agency.

Exceptions to this policy are:

(a) Public authorities, other special purpose districts, and private corporations that do not have the legal authority to implement non-point source controls in their new or expanded service areas. **Such entities are subject, however, to the requirement set forth in paragraph 3.10.3 A.2.e.2) below, that no new connection may be approved unless the area(s) served is (are) regulated by a non-point source pollution control plan approved by the Commission.**

(b) The requirement for service area non-point source control plans is automatically satisfied if the project service area is part of a watershed non-point source management plan that has been adopted into the Commission's Comprehensive Plan and is being implemented.

(c) Projects located above major surface water impoundments listed in Section 3.10.3.A.2.g.5) where time of travel and relevant hydraulic and limnological factors preclude a direct impact on Special Protection Waters.

(d) Projects located in municipalities that have adopted and are actively implementing non-point source/stormwater control ordinances that have been reviewed and approved by the Commission.

(e) Projects located in watersheds where the applicable state environmental agency, county government, and local municipalities are participating in the development of a watershed plan being prepared under the auspices of these regulations, the federal Clean Water Act, or state initiatives.

2) Approval of a new or expanded water withdrawal and/or wastewater discharge project will be subject to the condition that any new connection to the project system only serve an area(s) regulated by a non-point source pollution control plan which has been approved by the Commission.

3) Within two years after the adoption of Special Protection Waters non-point source control regulations, the Commission shall, after substantial consultation with local, county, state and federal agencies and the general public, publish a report presenting its methodology for prioritizing watersheds in the Special Protection Waters drainage area including alternatives, if any; a preliminary listing of priority watersheds in the drainage area; and a recommended plan of study for the development of watershed-specific management plans. For waters classified as Special Protection Waters after December 1992, the watershed prioritization process will be completed within two years after the Special Protection Waters are classified.

Watershed priorities will be determined from a comparative analysis of each watershed's location and potential, future impact on existing water quality at designated Boundary and Interstate **[Special Protection Waters]** Control Points. In determining priorities, the Commission will consider:

(a) the physical characteristics of the watershed including slopes, soils, existing land use and land cover, drainage characteristics, and others;

(b) the status of existing water quality and trends, if any, of the watershed as measured at its Boundary Control Point;

(c) the anticipated mass loadings of new non-point sources;

(d) the watershed management and planning priorities of applicable local,

(e) the current status of local land use/non-point source controls in the watershed;

(f) the stormwater permitting activity in the NPDES permitting program; and

(g) other natural and anthropogenic factors.

4) Once the public has been given an opportunity to comment, the Commission will adopt a list of priority watersheds. This listing will be reviewed and modified as necessary on a two year basis after adoption.

5) Within five years after adopting a list of priority watersheds draining to Special Protection Waters, the Commission shall develop, or encourage the development of, watershed non-point source management plans for each priority watershed unless new circumstances result in deferring plan completion. Watershed non-point source management plans will focus on non-point source loadings, but will consider total loads including both point and non-point sources and their interrelationship where necessary.

During plan development, the Commission will seek technical assistance from the applicable state environmental agency and all other applicable federal, state, county, and local governmental units; and will consider direct delegation of plan development (with concurrence of the state environmental agency) to any county or other applicable governmental entity desiring to perform the watershed planning activities on behalf of, or instead of, the Commission. Where more than one political unit shares a watershed, joint plan development arrangements between the Commission and delegated agencies will be developed.

6) Watershed management plans developed by the Commission, or approved by the Commission will be incorporated into the Commission's Comprehensive Plan in accordance with the *Rules of Practice and Procedure*.

7) The Commission shall encourage the voluntary development of watershed management plans for tributary watersheds entering Special Protection Waters and local non-point source regulatory programs that conform to the goals and objectives of the Special Protection Waters regulations as promulgated in Sections 3.10.3A.2. Within the limits of its resources, the Commission will provide technical assistance, a clearinghouse for non-point sources information, regulatory authority, inter-agency coordination, and other services to local and other governmental units desiring to develop and implement stormwater and non-point source watershed plans and local regulatory programs.

8) The Commission shall encourage the submission of watershed management plans prepared voluntarily and independently from these regulations for consideration of inclusion into the Commission's Comprehensive Plan.

f. Policies Regarding Inter-Government Responsibilities

1) Inter-relationship of State and Commission Responsibilities.

The applicable state environmental agency shall assure to the extent possible[,] that existing water quality in Special Protection Waters is not measurably changed by pollution discharged into the intrastate tributary watersheds within its jurisdiction. For water quality management purposes, the state environmental agency and the Commission will jointly establish Boundary Control Points as described in Section 3.10.3.A.2a.12[13]) and g.4).

In performing this responsibility, the state environmental agency shall require that all new or expanding wastewater treatment facilities and existing wastewater treatment plants applying for a discharge permit or permit renewal under the delegated NPDES program to comply with the policies as prescribed in Section 3.10.3.A.2.d. unless it can be demonstrated, after consultation with the Commission, that these requirements are not necessary for the protection of existing water quality in the Special Protection Waters due to distance from Special Protection Waters, time of travel, the existence of water storage impoundments, the waste assimilation characteristics of the receiving stream, and other relevant hydrological and limnological factors.

The Commission shall, to the extent practicable and necessary, coordinate and oversee all Special Protection Waters activities and assist the efforts of each state environmental agency to control pollutants originating from intrastate tributary watersheds. The Commission shall determine pollution control requirements for discharges to Special Protection Waters; for non-point sources draining directly into Special Protection Waters; and total non-point source loads emanating from intrastate tributary watersheds as measured at Boundary Control Points.

g. Classified Special Protection Waters

1) The following stream reaches are classified as Outstanding Basin Waters:

(a) The Upper Delaware Scenic and Recreational River (Delaware River between River Mile 330.7 and 258.4);

(b) Those portions of intrastate tributaries located within the established boundary of the Upper Delaware Scenic and Recreational River Corridor;

(c) The Middle Delaware Scenic and Recreational River (Delaware River between River Miles 250.1 and 209.5);

(d) Those portions of tributaries located within the established boundary of the Delaware Water Gap National Recreation Area.

2) The following stream reaches are classified as Significant Resource Waters:

(a) The Delaware River between River Miles 258.4 (the downstream boundary of the Upper Delaware Scenic and Recreational River) and 250.1 (the upstream boundary of the Delaware Water Gap National Recreation Area);

(b) The Lower Delaware River between River Miles 209.5 (the downstream boundary of the Delaware Water Gap National Recreation Area) and **[133.4] 134.34** (**the Calhoun Street Bridge near** the Head of Tide at Trenton, NJ).

3) **Definitions of Existing Water Quality for waters classified in paragraphs 1) and 2) above are presented in Part A of Table 1 for the Upper Delaware Scenic & Recreational River and Part B of Table 1 for the reach from Millrift, Pa. to the Delaware Water Gap, including the Middle Delaware Scenic and Recreational River; and in Table 2 for the reach between the Delaware Water Gap and Trenton, N.J. [Definitions of existing water quality for waters classified in 1) and 2) above are presented in Table 1.]**

4) The locations of Boundary and Interstate **[Special Protection Waters]** Control Points are described in **[Table 2] Part C of Table 1 for the reach between Hancock, N.Y. and the Delaware Water Gap and in Table 2 for the reach between the Delaware Water Gap and Trenton, N.J**.

5) Major surface water impoundments referenced in Section 3.10.3A.2.e.1)c.) are the following:

(a) Cannonsville Reservoir (New York State)

(b) Pepacton Reservoir (New York State)

(c) Neversink Reservoir (New York State)

(d) Lake Wallenpaupack (Pennsylvania)

(e) Mongaup System (New York State).

[6) For the stream reach listed in Section 3.10.3A2.g.2).(b), all provisions of Section 3.10.3A.2 shall be in effect except those listed below:]

- **[The requirement at Section 3.10.3A.2.b.2). that "[p]oint and non-point sources from outside the boundaries of stream reaches classified as Significant Resource Waters shall be treated as required and then dispersed in the receiving water so that no measurable change occurs at Boundary and Interstate Special Protection Waters Control Points."]**

- **[The requirement of Section 3.10.3A.2.b., read in combination with Section 3.10.3A.2.d.6), that new and expanding wastewater treatment projects discharging to Special Protection Waters may be subject to additional treatment requirements, above and beyond the effluent criteria defining Best Demonstrable Technology, as necessary to ensure no measurable change in existing water quality in Special Protection Waters.]**

- **[The requirement at Section 3.10.3A.2.f. that state environmental agencies "shall assure to the extent possible, that existing water quality in Special Protection Waters is not measurably changed by pollution discharged into the intrastate tributary watersheds within their jurisdiction."]**

[Sections 3.10.3A.2.g.2).(b) and 3.10.3A.2.g.6). shall expire on May 15, 2008 unless extended by amendment to this rule.]

TABLE 1. DEFINITION OF EXISTING WATER QUALITY IN THE DELAWARE RIVER BETWEEN HANCOCK, NEW YORK AND THE DELAWARE WATER GAP[1]

PART A: UPPER DELAWARE SCENIC & RECREATIONAL RIVER[2]

PARAMETER	MEAN	95 PERCENT CONFIDENCE LIMITS OF MEAN	10TH AND 90TH PERCENTILES	ADDITIONAL
Dissolved oxygen* (mg/l)	9.0	8.9 to 9.2	7.5 and 11.0	Never below 6.0 mg/l (night time); May-Sept; reachwide
BOD_5* (mg/l)	0.67	0.6 to 0.8	0.3 and 1.9	May-Sept; reachwide
Conductivity (umhos/cm)	68	66.6 to 69.3	52 and 88	non-seasonal; reachwide
Fecal coliform* (colonies/100 ml)	24	21 to 28	4 and 200	May-Sept; reachwide
Total suspended* solids (mg/l)	4.0	2.9 to 5.6	2.0 and 16	non-seasonal; reachwide
Total phosphorus* (ug/l)	29	27 to 31	18 and 50	non-seasonal; reachwide
Ammonia + ammonium* (ug/l)	15	13 to 18	10 and 50	as nitrogen; May-Sept; reachwide
Ammonia + ammonium* (ug/l)	22	20 to 25	10 and 60	as nitrogen; non-seasonal; reachwide
Total kjeldahl nitrogen* (ug/l)	202	172 to 237	100 and 530	May-Sept; reachwide
Nitrite + nitrate nitrogen* (ug/l)	293	256 to 336	123 and 492	May-Sept; reachwide
Hardness (mg/l as $CaCo_3$)	21	19.9 to 22.2	17.0 and 27.0	non-seasonal; reachwide
Biocriteria: Shannon-Wiener	3.6	3.4 to 3.8	2.7 and 4.3	May-Sept; reachwide
Biocriteria: Equitability	0.8	0.7 to 0.9	0.5 and 1.1	May-Sept; reachwide
Biocriteria: EPT	15.5	13.8 to 17.2	8.0 and 24.0	May-Sept; reachwide

*** Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.**

[1] The numeric values for Existing Water Quality set forth in Parts A, B and C of Table 1 were developed through field measurements and laboratory analysis of data collected over a time period determined by the Commission to adequately reflect the natural range of the hydraulic and climatologic factors that [which] affect water quality. Existing water quality [shall be] is defined in terms of (a) an annual or seasonal mean of the available water quality data, (b) two-tailed upper and lower 95 percent confidence limits around the mean, and (c) the 10th and 90th percentiles of the data set from which the mean was calculated.

PART B: DELAWARE RIVER FROM MILLRIFT THROUGH THE DELAWARE WATER GAP INCLUDING THE MIDDLE DELAWARE SCENIC AND RECREATIONAL RIVER[2]				
PARAMETER	MEAN	95 PERCENT CONFIDENCE LIMITS OF MEAN	10TH AND 90TH PERCENTILES	ADDITIONAL
Dissolved oxygen* (mg/l)	9.2	9.1 to 9.4	7.5 and 12.8	Never below 6.0 mg/l (night time); non-seasonal; reachwide
BOD_5* (mg/l)	0.63	0.6 to 0.7	0.3 and 1.6	May-Sept; reachwide
Conductivity (umhos/cm)	76	75 to 77	60 and 95	non-seasonal; reachwide
Fecal coliform* (colonies/100 ml)	47	42 to 53	9 and 272	May-Sept; reachwide
Total suspended solids* (mg/l)	3.4	3.0 to 3.8	1.0 and 12.0	non-seasonal; reachwide
Total phosphorus* (ug/l)	27	25 to 29	14 and 40	May-Sept; reachwide
Ammonia + ammonium* (ug/l)	23	21 to 26	10 and 50	May-Sept; reachwide
Ammonia + ammonium* (ug/l)	41	37 to 44	10 and 187	non-seasonal; reachwide
Total kjeldahl nitrogen* (ug/l)	293	276 to 312	101 and 860	non-seasonal; reachwide
Total kjeldahl nitrogen* (ug/l)	206	189 to 225	100 and 490	May-Sept; reachwide
Nitrite + nitrate nitrogen* (ug/l)	246	233 to 260	100 and 490	non-seasonal; reachwide
Nitrite + nitrate nitrogen* (ug/l)	206	191 to 223	92 and 392	May-Sept; reachwide
Hardness (mg/l as $CaCo_3$)	24	24 to 25	20 and 30	non-seasonal; reachwide
Biocriteria: Shannon-Wiener	3.6	3.4 to 3.7	3.2 and 4.1	May-Sept; reachwide
Biocriteria: Equitability	0.8	0.7 to 0.9	0.5 and 1.1	May-Sept; reachwide
Biocriteria: EPT	13.9	12.8 to 15.1	8.0 and 20.0	May-Sept; reachwide

*** Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.**

[PART C: NOTES ON STATISTICS USED TO DEFINE EXISTING WATER QUALITY] [2] The definitions of Existing Water Quality presented in Parts A and B of this table were developed by performing parametric statistical analyses using logarithmic transformation of available water quality data to derive normality. The numbers represent the anti-log of the statistical results and, thus, will differ from numbers generated by using non-transformed data. Means derived from log transformations, for example, will be lower than means derived from non-transformed data. The 95 percent confidence limits were derived from a two-tailed distribution. Biocriteria were not developed using log-transformed data. The three indices used to develop the biocriteria

were derived from specialized transformations of the original data, resulting in values that are normally distributed.

[TABLE 2. BOUNDARY AND INTERSTATE SPECIAL PROTECTION WATERS CONTROL POINTS]

PART C: BOUNDARY AND INTERSTATE CONTROL POINTS FOR THE DELAWARE RIVER BETWEEN HANCOCK, N.Y. AND THE DELAWARE WATER GAP		
BOUNDARY	CONTROL POINTS	MAP REFERENCE
Northern Boundary-UDSRR	Delaware River Mile 330.7	DRBC River Mile maps & UDSRR River Management Plan
Eastern Boundary-UDSRR	New York streams in Delaware & Sullivan Counties: Blue Mill; Humphries; Abe Lord; Bouchoux; Pea; Hoolihan; Basket; Hankins; Callicoon; Mitchell Pond; Tenmile; Grassy Swamp; Narrow Falls; York Lake; Beaver Brook; Halfway; Mill; Fish Cabin; Mongaup; Shingle Kill	UDSRR River Management PLAN
Western Boundary-UDSRR	Pennsylvania streams in Wayne & Pike Counties: Shingle Hollow; Stockport; Factory; Equinunk; Weston; Little Equinunk; Cooley; Hollister; Schoolhouse; Beaverdam; Calkins; Peggy Run; Masthope; Westcolang; Lackawaxen; Verga Pond; Panther; Shohola; Twin Lakes; Pond Eddy; Bush Kill	UDSRR River Management PLAN
Northern Boundary-Eight mile reach between UDSRR and MDSRR	Delaware River Mile 258.4 (railroad crossing at Millrift, Pennsylvania)	DRBC River Mile maps; UDSRR River Management Plan
Eastern & Western Boundaries-Eight mile reach between UDSRR & MDSRR	Confluence of New York streams (Orange County); Pennsylvania streams (Pike County); and New Jersey streams (Sussex County) with the Delaware River: Sparrowbush; Neversink; Cummins	U.S.G.S. Port Jervis South & North topographic maps
Northern Boundary-DWGNRA	Delaware River Mile 250.1 near the confluence of Cummins Creek	DRBC River Mile map & DWGNRA Tract Map
Eastern Boundary-DWGNRA	New Jersey streams in Sussex County: Shimers; White; Big Flatbrook; Little Flatbrook	DWGNRA Tract Maps
Western Boundary-DWGNRA	Pennsylvania streams in Pike & Monroe Counties: Crawford Branch; Vandermark; Sawkill; Raymondskill; Conashaugh; Dry; Adams; Dingmans; Hornbeck; Deckers; Alicias; Brodhead-Hellers; Hellers; Toms; Denmark; Little Bushkill; Bushkill; Shawnee; Brodhead; Cherry; Caledonia; Slateford	DWGNRA Tract Maps
~~SPECIAL PROTECTION WATERS~~ **INTERSTATE**	CONTROL POINTS (General Locations)	RIVER MILE
Upper Delaware Scenic & Recreational River	Buckingham Access Area Lordville Bridge Kellams Bridge Callicoon Access Areas Damacus/Cochecton Skinners Falls Narrowsburg area Ten Mile River Access Area Lackawaxen Access Area Barryville/Shohola Bridge Pond Eddy Bridge	325 322 313 303 298 295 290 284 277 273 266
Delaware River between the UDSRR & the DWGNRA	Millrift Matamoras/Port Jervis Northern boundary-DWGNRA	258 254 250

~~SPECIAL PROTECTION WATERS~~ **INTERSTATE**	CONTROL POINTS (General Locations)	RIVER MILE
Delaware Water Gap National Recreation Area	Milford Beach	247
	Dingmans Access Area	239
	Eshback Access Area	232
	Bushkill Access Area	228
	Depew Access Area	221
	Smithfield Beach	218
	Worthington S.F. Access	215
	Kittatinny Visitor Center	211
	Upstream end of Arrow Island	210

[TABLE 2 – PARTS A THROUGH Z BEGINS ON NEXT PAGE]

[TABLE 2 IS AN ENTIRELY NEW TABLE WITHIN SECTION 3.10.3 A.2. NO REDLINE IS PROVIDED.]

TABLE 2A. INDEX to Lower Delaware River CONTROL POINTS, by River Mile Location.

EWQ Table	Tributary or Delaware River Site	Latitude	Longitude	River Mile	Control Point (ICP = Interstate CP BCP = Boundary CP)	Drainage Area (square miles)
Table 2C	**Portland ICP**	40.784722	-75.184722	**207.50**	**Portland ICP**	**4,165**
	Jacoby Creek (PA)			207.48	Belvidere ICP	6.45
Table 2D	**Paulins Kill (NJ)**	40.920833	-75.088333	**207.16-0.07**	**Paulins Kill BCP**	**177.0**
	Delawanna Creek (NJ)			205.20	Belvidere ICP	4.49
	Allegheny Creek (PA)			199.76	Belvidere ICP	9.06
Table 2E	**Belvidere ICP**	40.828889	-75.085000	**197.84**	**Belvidere ICP**	**4,378**
Table 2F	**Pequest River (NJ)**	40.834167	-75.061111	**197.80-1.48**	**Pequest River BCP**	**157.0**
	Pophandusing Brook (NJ)			197.66	Easton ICP	5.62
	Oughoughton Creek (PA)			194.32	Easton ICP	11.9
	Buckhorn Creek (NJ)			192.90	Easton ICP	11.8
Table 2G	**Martins Creek (PA)**	40.784722	-75.184722	**190.65-0.96**	**Martins Creek BCP**	**44.5**
	Mud Run (PA)			189.10	Easton BCP	6.00
Table 2H	**Bushkill Creek (PA)**	40.695278	-75.206111	**184.10-0.05**	**Bushkill Creek BCP**	**80.0**
Table 2I	**Easton ICP**	40.691111	-75.204167	**183.82**	**Easton ICP**	**4,717**
Table 2J	**Lehigh River (PA)**	40.691111	-75.204722	**183.66-0.27**	**Lehigh River BCP**	**1,368**
	Lopatcong Creek (NJ)			182.00	Riegelsville ICP	14.7
Table 2K	**Pohatcong Creek (NJ)**	40.624722	-75.186111	**177.36-0.35**	**Pohatcong Creek BCP**	**57.1**
	Fry's Run (PA)			176.60	Riegelsville ICP	6.14
Table 2L	**Riegelsville ICP**	40.593889	-75.191111	**174.80**	**Riegelsville ICP**	**6,172**
Table 2M	**Musconetcong River (NJ)**	40.592500	-75.186667	**174.60-0.15**	**Musconetcong BCP**	**156.0**
Table 2N	**Cooks Creek (PA)**	40.586667	-75.211944	**173.70-1.06**	**Cooks Creek BCP**	**29.5**
	Gallows Run (PA)			171.80	Milford ICP	8.72
Table 2O	**Milford ICP**	40.566389	-75.098889	**167.70**	**Milford ICP**	**6,381**
	Hakihokake Creek (NJ)			167.20	Bulls Island ICP	17.5
	Harihokake Creek (NJ)			165.70	Bulls Island ICP	9.85
Table 2P	**Nishisakawick Creek (NJ)**	40.526389	-75.060278	**164.10-0.35**	**Nishisakawick BCP**	**11.1**
	Little Nishisakawick Creek (NJ)			164.00	Bulls Island ICP	3.51

EWQ Table	Tributary or Delaware River Site	Latitude	Longitude	River Mile	Control Point (ICP = Interstate CP BCP = Boundary CP)	Drainage Area (square miles)
	Copper Creek (NJ)			162.90	Bulls Island ICP	3.27
Table 2Q	**Tinicum Creek (PA)**	40.485278	-75.072500	**161.60-0.24**	**Tinicum Creek BCP**	**24.0**
	Warford Creek (NJ)			160.50	Bulls Island ICP	1.43
	Smithtown Creek (PA)			159.90	Bulls Island ICP	1.38
	Warsaw Creek (NJ)			159.50	Bulls Island ICP	1.60
Table 2R	**Tohickon Creek (PA)**	40.423056	-75.066667	**157.00-0.19**	**Tohickon Creek BCP**	**112.0**
	Hickory Creek (PA)			156.98	Bulls Island ICP	1.50
Table 2S	**Paunacussing Creek (PA)**	40.407500	-75.041667	**155.90-0.12**	**Paunacussing BCP**	**7.87**
Table 2T	**Bulls Island ICP**	40.407500	-75.037778	**155.40**	**Bulls Island ICP**	**6,598**
	Cuttalossa Creek (PA)			154.50	Lambertville ICP	3.00
Table 2U	**Lockatong Creek (NJ)**	40.415833	-75.018056	**154.00-0.75**	**Lockatong Creek BCP**	**23.2**
Table 2V	**Wickecheoke Creek (NJ)**	40.411667	-74.986944	**152.51-0.21**	**Wickecheoke BCP**	**26.6**
	Primrose Creek (PA)			150.50	Lambertville ICP	3.00
	Alexauken Creek (NJ)			149.50	Lambertville ICP	15.0
	Rabbit Run (PA)			149.45	Lambertville ICP	0.42
Table 2W	**Lambertville ICP**	40.365833	-74.949167	**148.70**	**Lambertville ICP**	**6,680**
	Swan Creek (NJ)			148.60	Wash. Crossing ICP	3.28
	Aquetong Creek (PA)			148.50	Wash. Crossing ICP	8.01
	Dark Hollow Run (PA)			148.20	Wash. Crossing ICP	0.71
Table 2X	**Pidcock Creek (PA)**	40.32907	-74.94566	**146.30-0.90**	**Pidcock Creek BCP**	**12.7**
	Moore Creek (NJ)			145.20	Wash. Crossing ICP	10.2
	Jericho Creek (PA)			144.20	Wash. Crossing ICP	9.63
	Fiddlers Creek (NJ)			143.20	Wash. Crossing ICP	2.02
Table 2Y	**Washington Crossing ICP**	40.295278	-74.868889	**141.80**	**Wash. Crossing ICP**	**6,735**
	Houghs Creek (PA)			140.60	Trenton ICP	5.19
	Jacobs Creek (NJ)			140.46	Trenton ICP	13.3
	Dyers Creek (PA)			139.80	Trenton ICP	1.20
	Reeds Run (NJ)			138.50	Trenton ICP	1.50
	Buck Creek (PA)			138.00	Trenton ICP	6.99
	Gold Run (NJ)			137.25	Trenton ICP	1.66

EWQ Table	Tributary or Delaware River Site	Latitude	Longitude	River Mile	Control Point (ICP = Interstate CP BCP = Boundary CP)	Drainage Area (square miles)
Table 2Z	**Trenton ICP**	40.219722	-74.778333	**134.34**	**Trenton ICP**	**6,780**

TABLE 2B. Alphabetical INDEX to Lower Delaware River CONTROL POINTS.

EWQ Table	Tributary or Delaware River Site	Latitude	Longitude	River Mile	Control Point (ICP = Interstate CP BCP = Boundary CP)	Drainage Area (square miles)
	Alexauken Creek (NJ)			149.50	Lambertville ICP	15.0
	Allegheny Creek (PA)			199.76	Belvidere ICP	9.06
	Aquetong Creek (PA)			148.50	Wash. Crossing ICP	8.01
Table 2E	**Belvidere ICP**	40.828889	-75.085000	**197.84**	**Belvidere ICP**	**4,378**
	Buck Creek (PA)			138.00	Trenton ICP	6.99
	Buckhorn Creek (NJ)			192.90	Easton ICP	11.8
Table 2T	**Bulls Island ICP**	40.407500	-75.037778	**155.40**	**Bulls Island ICP**	**6,598**
Table 2H	**Bushkill Creek (PA)**	40.695278	-75.206111	**184.10-0.05**	**Bushkill Creek BCP**	**80.0**
Table 2N	**Cooks Creek (PA)**	40.586667	-75.211944	**173.70-1.06**	**Cooks Creek BCP**	**29.5**
	Copper Creek (NJ)			162.90	Bulls Island ICP	3.27
	Cuttalossa Creek (PA)			154.50	Lambertville ICP	3.00
	Dark Hollow Run (PA)			148.20	Wash. Crossing ICP	0.71
	Delawanna Creek (NJ)			205.20	Belvidere ICP	4.49
	Dyers Creek (PA)			139.80	Trenton ICP	1.20
Table 2I	**Easton ICP**	40.691111	-75.204167	**183.82**	**Easton ICP**	**4,717**
	Fiddlers Creek (NJ)			143.20	Wash. Crossing ICP	2.02
	Fry's Run (PA)			176.60	Riegelsville ICP	6.14
	Gallows Run (PA)			171.80	Milford ICP	8.72

EWQ Table	Tributary or Delaware River Site	Latitude	Longitude	River Mile	Control Point (ICP = Interstate CP BCP = Boundary CP)	Drainage Area (square miles)
	Gold Run (NJ)			137.25	Trenton ICP	1.66
	Hakihokake Creek (NJ)			167.20	Bulls Island ICP	17.5
	Harihokake Creek (NJ)			165.70	Bulls Island ICP	9.85
	Hickory Creek (PA)			156.98	Bulls Island ICP	1.50
	Houghs Creek (PA)			140.60	Trenton ICP	5.19
	Jacobs Creek (NJ)			140.46	Trenton ICP	13.3
	Jacoby Creek (PA)			207.48	Belvidere ICP	6.45
	Jericho Creek (PA)			144.20	Wash. Crossing ICP	9.63
Table 2W	**Lambertville ICP**	40.365833	-74.949167	**148.70**	**Lambertville ICP**	**6,680**
Table 2J	**Lehigh River (PA)**	40.691111	-75.204722	**183.66-0.27**	**Lehigh River BCP**	**1,368**
	Little Nishisakawick Creek (NJ)			164.00	Bulls Island ICP	3.51
Table 2U	**Lockatong Creek (NJ)**	40.415833	-75.018056	**154.00-0.75**	**Lockatong Creek BCP**	**23.2**
	Lopatcong Creek (NJ)			182.00	Riegelsville ICP	14.7
Table 2G	**Martins Creek (PA)**	40.784722	-75.184722	**190.65-0.96**	**Martins Creek BCP**	**44.5**
Table 2O	**Milford ICP**	40.566389	-75.098889	**167.70**	**Milford ICP**	**6,381**
	Moore Creek (NJ)			145.20	Wash. Crossing ICP	10.2
	Mud Run (PA)			189.10	Easton BCP	6.00
Table 2M	**Musconetcong River (NJ)**	40.592500	-75.186667	**174.60-0.15**	**Musconetcong BCP**	**156.0**
Table 2P	**Nishisakawick Creek (NJ)**	40.526389	-75.060278	**164.10-0.35**	**Nishisakawick BCP**	**11.1**
	Oughoughton Creek (PA)			194.32	Easton ICP	11.9
Table 2D	**Paulins Kill (NJ)**	40.920833	-75.088333	**207.16-0.07**	**Paulins Kill BCP**	**177.0**
Table 2S	**Paunacussing Creek (PA)**	40.407500	-75.041667	**155.90-0.12**	**Paunacussing BCP**	**7.87**
Table 2F	**Pequest River (NJ)**	40.834167	-75.061111	**197.80-1.48**	**Pequest River BCP**	**157.0**
Table 2X	**Pidcock Creek (PA)**	40.32907	-74.94566	**146.30-0.90**	**Pidcock Creek BCP**	**12.7**
Table 2K	**Pohatcong Creek (NJ)**	40.624722	-75.186111	**177.36-0.35**	**Pohatcong Creek BCP**	**57.1**
	Pophandusing Brook (NJ)			197.66	Easton ICP	5.62
Table 2C	**Portland ICP**	40.784722	-75.184722	**207.50**	**Portland ICP**	**4,165**
	Primrose Creek (PA)			150.50	Lambertville ICP	3.00
	Rabbit Run (PA)			149.45	Lambertville ICP	0.42
	Reeds Run (NJ)			138.50	Trenton ICP	1.50

EWQ Table	Tributary or Delaware River Site	Latitude	Longitude	River Mile	Control Point (ICP = Interstate CP BCP = Boundary CP)	Drainage Area (square miles)
Table 2L	**Riegelsville ICP**	40.593889	-75.191111	**174.80**	**Riegelsville ICP**	**6,172**
	Smithtown Creek (PA)			159.90	Bulls Island ICP	1.38
	Swan Creek (NJ)			148.60	Wash. Crossing ICP	3.28
Table 2Q	**Tinicum Creek (PA)**	40.485278	-75.072500	**161.60-0.24**	**Tinicum Creek BCP**	**24.0**
Table 2R	**Tohickon Creek (PA)**	40.423056	-75.066667	**157.00-0.19**	**Tohickon Creek BCP**	**112.0**
Table 2Z	**Trenton ICP**	40.219722	-74.778333	**134.34**	**Trenton ICP**	**6,780**
	Warford Creek (NJ)			160.50	Bulls Island ICP	1.43
	Warsaw Creek (NJ)			159.50	Bulls Island ICP	1.60
Table 2Y	**Washington Crossing ICP**	40.295278	-74.868889	**141.80**	**Wash. Crossing ICP**	**6,735**
Table 2V	**Wickecheoke Creek (NJ)**	40.411667	-74.986944	**152.51-0.21**	**Wickecheoke BCP**	**26.6**

Table 2C. Definition of Existing Water Quality: Portland ICP

Delaware River at Portland-Columbia Pedestrian Bridge, Pennsylvania/New Jersey, River Mile 207.50

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	12	11	13	Y = -0.00019515 Q + 13.325
Chlorophyll a (mg/m^3)	2.13	1.30	2.70	
Dissolved Oxygen (mg/l) mid-day*	8.70	8.38	9.06	
Dissolved Oxygen Saturation (%)	97%	95%	99%	
E. coli (colonies/100 ml)	16	8	25	Y = antilog (0.00007074 Q + 0.6659)
Enterococcus (colonies/100 ml)	20	12	60	
Fecal coliform (colonies/100 ml) *	20	12	36	Y = antilog (0.00006854 Q + 0.955)
Nitrate NO3-N (mg/l) *	0.68	0.48	0.74	
Orthophosphate (mg/l)	0.01	0.005	0.01	
pH	7.40	7.29	7.58	
Specific Conductance (umhos/cm)	97	88	104	Y = -0.00151181 Q + 106.6
Total Dissolved Solids (mg/l)	83	74	91	
Total Kjeldahl Nitrogen (mg/l)	0.29	0.19	0.40	
Total Nitrogen (mg/l) *	0.86	0.74	1.05	
Total Phosphorus (mg/l) *	0.04	0.03	0.05	
Total Suspended Solids (mg/l) *	3.0	2.0	4.0	Y = 0.00122363 Q - 2.8618
Turbidity (NTU)	1.6	1.1	2.8	Y = antilog (0.00005157 Q – 0.1356)
Alkalinity (mg/l)	20	16	22	Y = -0.00046984 Q + 23.547
Hardness (mg/l)	30	28	31	

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ value does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2D. Definition of Existing Water Quality: Paulins Kill BCP

Paulins Kill, New Jersey, River Mile 207.16 – 0.07
Boundary Control Point is located at Route 46 bridge.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	0.06	0.04	0.08	
Chloride (mg/l)	41.9	36	48	Y = -17.4858 (log Q) + 79.5946
Chlorophyll a (mg/m^3)	3.3	2.7	5.3	
Dissolved Oxygen (mg/l) mid-day *	7.95	7.31	8.39	
Dissolved Oxygen Saturation (%)	88%	83%	91%	
E. coli (colonies/100 ml)	75	40	140	Y = antilog (0.7993 (log Q) + 0.157)
Enterococcus (colonies/100 ml)	120 **	84 **	180 **	
Fecal coliform (colonies/100 ml) *	110	84	190	Y = antilog (0.967 (log Q) – 0.0255)
Nitrate NO3-N (mg/l) *	0.75	0.70	0.86	
Orthophosphate (mg/l)	0.02	0.01	0.02	
pH	7.79	7.70	7.87	
Specific Conductance (umhos/cm)	416	380	453	Y = -141.2449 (log Q) + 715.5098
Total Dissolved Solids (mg/l)	280	250	300	Y = -75.186 (log Q) + 426.1389
Total Kjeldahl Nitrogen (mg/l)	0.39	0.29	0.53	
Total Nitrogen (mg/l) *	1.13	0.99	1.28	
Total Phosphorus (mg/l) *	0.05	0.05	0.06	
Total Suspended Solids (mg/l) *	7.0	5.0	8.0	
Turbidity (NTU)	4.0	3.0	4.8	Y = antilog (0.4057 (log Q) – 0.269)
Alkalinity (mg/l)	125	110	140	Y = -49.5 (log Q) + 229.2
Hardness (mg/l)	158	140	176	Y = -56.8657 (log Q) + 280.7477

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ value does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2E. Definition of Existing Water Quality: Belvidere ICP

Delaware River at Belvidere-Riverton Bridge, NJ/PA, River Mile 197.84

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	14	12	15	Y = -0.00020113 Q + 14.872
Chlorophyll a (mg/m^3)	1.9	1.3	2.7	
Dissolved Oxygen (mg/l) mid-day*	8.52	8.00	8.95	
Dissolved Oxygen Saturation (%)	94%	92%	96%	
E. coli (colonies/100 ml)	20	5	30	Y = antilog (0.00005716 Q + 0.8244)
Enterococcus (colonies/100 ml)	50	35	68	
Fecal coliform (colonies/100 ml) *	30	20	50	Y = antilog (0.00006282 Q + 1.0055)
Nitrate NO3-N (mg/l) *	0.53	0.47	0.71	
Orthophosphate (mg/l)	0.01	0.01	0.02	
pH	7.49	7.25	7.60	
Specific Conductance (umhos/cm)	111.5	105.0	125.0	Y = -0.00185194 Q + 125.8
Total Dissolved Solids (mg/l)	98	86	100	
Total Kjeldahl Nitrogen (mg/l)	0.33	0.24	0.40	
Total Nitrogen (mg/l) *	0.89	0.82	1.11	
Total Phosphorus (mg/l) *	0.04	0.04	0.05	
Total Suspended Solids (mg/l) *	3.0	2.0	4.0	Y = 0.00120841 Q – 3.003
Turbidity (NTU)	1.7	1.2	2.5	Y = antilog (0.00003844 Q + 0.0483)
Alkalinity (mg/l)	26	24	28	Y = -0.00046346 Q + 29.199
Hardness (mg/l)	35	33	36	

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2F. Definition of Existing Water Quality: Pequest River BCP

Pequest River, New Jersey, River Mile 197.80 – 1.48
Boundary Control Point is located at Orchard Street Bridge, Belvidere

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	0.05	
Chloride (mg/l)	35.9	34.0	38.0	Y = -12.7769 (log Q) + 62.875
Chlorophyll a (mg/m^3)	2.14	2.00	2.70	
Dissolved Oxygen (mg/l) mid-day *	9.89	9.37	10.37	
Dissolved Oxygen Saturation (%)	103%	99%	107%	
E. coli (colonies/100 ml)	130	110	160	
Enterococcus (colonies/100 ml)	250 **	140 **	460 **	
Fecal coliform (colonies/100 ml) *	180	150	230 **	
Nitrate NO3-N (mg/l) *	1.29	1.13	1.45	
Orthophosphate (mg/l)	0.05	0.05	0.07	
pH	8.20	8.10	8.30	
Specific Conductance (umhos/cm)	491	472	511	Y = -0.18929204 Q + 517.8326
Total Dissolved Solids (mg/l)	330	310	340	Y = -75.8279 (log Q) + 479.4783
Total Kjeldahl Nitrogen (mg/l)	0.47	0.32	0.55	
Total Nitrogen (mg/l) *	1.69	1.54	2.00	
Total Phosphorus (mg/l) *	0.10	0.08	0.11 **	
Total Suspended Solids (mg/l) *	6.5	4.0	11.0	
Turbidity (NTU)	3.4	2.1	5.8	Y = antilog (1.0964 (log Q) - 1.87)
Alkalinity (mg/l)	189	180	200	Y = -64.33 (log Q) + 319.85
Hardness (mg/l)	228	220	230	Y = -50.0952 (log Q) + 329.8323

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2G. Definition of Existing Water Quality: Martins Creek BCP

Martins Creek, Pennsylvania, River Mile 190.65 – 0.96
Boundary Control Point is located at Little Creek Road bridge in Martins Creek Village.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	0.02***	0.05	
Chloride (mg/l)	21	19	24.3	Y = -11.0817 (log Q) + 39.9172
Chlorophyll a (mg/m^3)	1.80	0.50	2.70	
Dissolved Oxygen (mg/l) mid-day *	9.55	9.23	9.62	
Dissolved Oxygen Saturation (%)	98%	96%	99%	
E. coli (colonies/100 ml)	150	48	350	
Enterococcus (colonies/100 ml)	380	260	620	
Fecal coliform (colonies/100 ml) *	355 **	190	640 **	
Nitrate NO3-N (mg/l) *	2.38	2.04	2.80	
Orthophosphate (mg/l)	0.11	0.07	0.13	
pH	7.73	7.6	7.78	
Specific Conductance (umhos/cm)	322	283	338	Y = -114.3186 (log Q) + 506.634
Total Dissolved Solids (mg/l)	229	210	250	Y = -89.8812 (log Q) + 373.2748
Total Kjeldahl Nitrogen (mg/l)	0.34	0.28	0.50	
Total Nitrogen (mg/l) *	2.95	2.65	3.32	
Total Phosphorus (mg/l) *	0.13	0.10	0.20	
Total Suspended Solids (mg/l) *	4.0	2.0	5.0	
Turbidity (NTU)	2.4	1.6	4.0	Y = antilog (0.642 (log Q) - 0.684)
Alkalinity (mg/l)	50	43	52	Y = -19.48 (log Q) + 81.48
Hardness (mg/l)	120	112	130	Y = -46.9931 (log Q) + 201.407

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

*** Based on laboratory 'J' values reported below the 0.05 lower reporting limit.

Table 2H. Definition of Existing Water Quality: Bushkill Creek BCP

Bushkill Creek, Northampton County, Pennsylvania, River Mile 184.10 – 0.05
Boundary Control Point is located at Route 611 bridge, Easton.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	0.10	0.07	0.13	
Chloride (mg/l)	27	25	28.4	Y = -13.4942 (log Q) + 54.7837
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	10.10	9.69	10.30	
Dissolved Oxygen Saturation (%)	102%	100%	104%	
E. coli (colonies/100 ml)	330	220	620	
Enterococcus (colonies/100 ml)	350	280	540	
Fecal coliform (colonies/100 ml) *	540 **	370 **	880 **	
Nitrate NO3-N (mg/l) *	3.90	3.63	4.26	
Orthophosphate (mg/l)	0.02	0.02	0.03	
pH	8.00	7.99	8.08	
Specific Conductance (umhos/cm)	578	542	615	Y = -1.32108663 Q + 751.3559
Total Dissolved Solids (mg/l)	410	360	440	Y = -394.9208 (log Q) + 1231.0249
Total Kjeldahl Nitrogen (mg/l)	0.40	0.29	0.50	
Total Nitrogen (mg/l) *	4.41	4.11	4.73	
Total Phosphorus (mg/l) *	0.05	0.04	0.06	
Total Suspended Solids (mg/l) *	5.0	3.0	8.0	
Turbidity (NTU)	3.0	2.5	5.1	
Alkalinity (mg/l)	140	130	155	Y = -152.34 (log Q) + 459
Hardness (mg/l)	218	210	225	Y = -159.4372 (log Q) + 549.8009

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2I. Definition of Existing Water Quality: Easton ICP

Delaware River at Northampton Street Bridge, Easton-Phillipsburg, PA/NJ, River Mile 183.82

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<.05	<.05	<0.05	
Chloride (mg/l)	16	14	17	Y = -0.00022184 Q + 16.751
Chlorophyll a (mg/m^3)	1.45	1.07	2.14	
Dissolved Oxygen (mg/l) mid-day*	8.10	7.90	8.58	
Dissolved Oxygen Saturation (%)	95%	92%	96%	
E. coli (colonies/100 ml)	31	24	64	Y = antilog (0.00004425 Q + 1.273)
Enterococcus (colonies/100 ml)	145	80	250	
Fecal coliform (colonies/100 ml) *	100	64	130	
Nitrate NO3-N (mg/l) *	0.85	0.70	0.90	
Orthophosphate (mg/l)	0.02	0.01	0.02	
pH	7.55	7.41	7.70	
Specific Conductance (umhos/cm)	142	127	155	Y = -0.0024666 Q + 158.76
Total Dissolved Solids (mg/l)	110	103	120	
Total Kjeldahl Nitrogen (mg/l)	0.35	0.26	0.46	
Total Nitrogen (mg/l) *	1.19	1.01	1.35	
Total Phosphorus (mg/l) *	0.05	0.04	0.06	
Total Suspended Solids (mg/l) *	4.0	3.0	5.0	Y = 0.00177536 Q – 4.8027
Turbidity (NTU)	2.6	1.8	4.0	Y = antilog (0.00003836 Q + 0.1845)
Alkalinity (mg/l)	34	30	39	Y = -0.00073929 Q + 39.867
Hardness (mg/l)	48	45	52	

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2J. Definition of Existing Water Quality: Lehigh River BCP

Lehigh River, Pennsylvania, River Mile 183.66 – 0.27
Boundary Control Point is located at Route 611 bridge, Easton.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	0.08	0.06	0.09	
Chloride (mg/l)	21	19	24	Y = -16.5077 (log Q) + 76.7534
Chlorophyll a (mg/m^3)	2.70	1.80	3.60	
Dissolved Oxygen (mg/l) mid-day *	8.85	8.39	9.20	
Dissolved Oxygen Saturation (%)	97%	94%	98%	
E. coli (colonies/100 ml)	49	36	120	Y = antilog (1.5045 (log Q) – 3.0132)
Enterococcus (colonies/100 ml)	110	56	210	
Fecal coliform (colonies/100 ml) *	120	70	200	Y = antilog (1.4387 (log Q) – 2.5712)
Nitrate NO3-N (mg/l) *	1.80	1.70	2.00	
Orthophosphate (mg/l)	0.11	0.09	0.15	
pH	7.61	7.50	7.70	
Specific Conductance (umhos/cm)	264	218	292	Y = -186.4602 (log Q) + 870.6296
Total Dissolved Solids (mg/l)	180	158	195	Y = -93.4568 (log Q) + 482.4929
Total Kjeldahl Nitrogen (mg/l)	0.50	0.41	0.58	
Total Nitrogen (mg/l) *	2.43	2.13	2.74	
Total Phosphorus (mg/l) *	0.17	0.15	0.24	
Total Suspended Solids (mg/l) *	4.0	3.0	6.0	
Turbidity (NTU)	3.1	2.2	6.0	Y = antilog (0.901 (log Q) – 2.335)
Alkalinity (mg/l)	55	49	69	Y = -51.44 (log Q) + 227.86
Hardness (mg/l)	94	77	105	Y = -58.1224 (log Q) + 285.2788

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2K. Definition of Existing Water Quality: Pohatcong Creek BCP

Pohatcong Creek, New Jersey, River Mile 177.36 – 0.35
Boundary Control Point is located at River Road bridge.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<.05	<.05	<0.05	
Chloride (mg/l)	20	19	21	
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	9.50	9.20	9.90	
Dissolved Oxygen Saturation (%)	97%	96%	100%	
E. coli (colonies/100 ml)	305	190	550	Y = antilog (1.0503 (log Q) + 0.976)
Enterococcus (colonies/100 ml)	610 **	380 **	820 **	
Fecal coliform (colonies/100 ml) *	580 **	420 **	810 **	
Nitrate NO3-N (mg/l) *	2.61	2.30	2.88	
Orthophosphate (mg/l)	0.05	0.05	0.07	
pH	7.90	7.88	7.95	
Specific Conductance (umhos/cm)	340	316	352	Y = -0.84542072 Q + 365.5539
Total Dissolved Solids (mg/l)	220	211	260	Y = -99.9173 (log Q) + 381.5349
Total Kjeldahl Nitrogen (mg/l)	0.33	0.19	0.36	
Total Nitrogen (mg/l) *	3.14	2.87	3.26	
Total Phosphorus (mg/l) *	0.10	0.08	0.11 **	
Total Suspended Solids (mg/l) *	6.5	5.0	8.0	
Turbidity (NTU)	4.6	2.1	5.1	Y = antilog (0.867 (log Q) – 0.69)
Alkalinity (mg/l)	116	104	120	Y = -81.8 (log Q) + 238.83
Hardness (mg/l)	140	135	160	Y = -76.5277 (log Q) + 261.5315

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2L. Definition of Existing Water Quality: Riegelsville ICP

Delaware River at Riegelsville Bridge, PA/NJ, River Mile 174.80

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	0.05	
Chloride (mg/l)	17	15	19	Y = -0.00026948 Q + 19.644
Chlorophyll a (mg/m^3)	2.42	1.80	3.60	
Dissolved Oxygen (mg/l) mid-day *	8.80	8.20	9.05	
Dissolved Oxygen Saturation (%)	97%	95%	98%	
E. coli (colonies/100 ml)	40	20	80	Y = antilog (0.0000513 Q + 0.9973)
Enterococcus (colonies/100 ml)	80	52	110	
Fecal coliform (colonies/100 ml) *	84	54	160	Y = antilog (0.00003636 Q + 1.5438)
Nitrate NO3-N (mg/l) *	1.17	1.02	1.23	
Orthophosphate (mg/l)	0.04	0.04	0.07	
pH	7.60	7.48	7.80	
Specific Conductance (umhos/cm)	183	155	197	Y = -0.00298102 Q + 207.26
Total Dissolved Solids (mg/l)	140	130	150	Y = -0.00168753 Q + 152.78
Total Kjeldahl Nitrogen (mg/l)	0.31	0.22	0.46	
Total Nitrogen (mg/l) *	1.44	1.31	1.62	
Total Phosphorus (mg/l) *	0.09	0.07	0.12	
Total Suspended Solids (mg/l) *	4.5	3.5	6.5	Y = 0.00061523 Q + 0.2725
Turbidity (NTU)	2.7	2.1	3.5	Y = antilog (0.00002645 Q + 0.2252)
Alkalinity (mg/l)	42	36	48	Y = -0.0008322 Q + 50.44
Hardness (mg/l)	65	54	70	Y = -0.00121951 Q + 73.708

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2M. Definition of Existing Water Quality: Musconetcong River BCP

Musconetcong River, New Jersey, River Mile 174.60 – 0.15
Boundary Control Point is located at River Road (Rt. 627) bridge

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	0.06	0.05	0.08	
Chloride (mg/l)	43	42	45	
Chlorophyll a (mg/m^3)	3.20	2.56	3.71	
Dissolved Oxygen (mg/l) mid-day *	9.10	8.90	9.60	
Dissolved Oxygen Saturation (%)	99%	97%	100%	
E. coli (colonies/100 ml)	125	70	240	
Enterococcus (colonies/100 ml)	210 **	150 **	360 **	
Fecal coliform (colonies/100 ml) *	270 **	190	400 **	
Nitrate NO3-N (mg/l) *	2.09	1.85	2.30	
Orthophosphate (mg/l)	0.02	0.02	0.03	
pH	7.90	7.90	8.00	
Specific Conductance (umhos/cm)	396	375	426	Y = -0.23045946 Q + 440.1906
Total Dissolved Solids (mg/l)	255	240	270	Y = -0.0954 Q + 272.5773
Total Kjeldahl Nitrogen (mg/l)	0.49	0.37	0.87	
Total Nitrogen (mg/l) *	2.56	2.36	2.91	
Total Phosphorus (mg/l) *	0.07	0.05	0.09	
Total Suspended Solids (mg/l) *	7.0	5.5	11.0	
Turbidity (NTU)	3.5	2.3	5.4	Y = antilog (0.86 (log Q) – 1.294)
Alkalinity (mg/l)	103	97	118	Y = -79.84 (log Q) + 298.41
Hardness (mg/l)	149	130	160	Y = -67.6003 (log Q) + 297.8314

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2N. Definition of Existing Water Quality: Cooks Creek BCP

Cooks Creek, Pennsylvania, River Mile 173.70 – 1.06
Boundary Control Point is located at Red Bridge Road bridge.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	9.7	8.9	10.9	
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	9.93	9.70	10.30	
Dissolved Oxygen Saturation (%)	102%	98%	108%	
E. coli (colonies/100 ml)	110	80	200	Y = antilog (1.1307 (log Q) + 0.6483)
Enterococcus (colonies/100 ml)	380	250	520	
Fecal coliform (colonies/100 ml) *	210 **	140	360 **	
Nitrate NO3-N (mg/l) *	1.80	1.70	1.90	
Orthophosphate (mg/l)	0.01	0.01	0.02	
pH	8.04	7.94	8.19	
Specific Conductance (umhos/cm)	258	244	278	Y = -0.94618228 Q + 290.6508
Total Dissolved Solids (mg/l)	180	161	194	Y = -0.7015 Q + 197.6165
Total Kjeldahl Nitrogen (mg/l)	0.21	0.13	0.34	
Total Nitrogen (mg/l) *	2.01	1.95	2.32	
Total Phosphorus (mg/l) *	0.04	0.03	0.06	
Total Suspended Solids (mg/l) *	2.5	2.0	4.0	
Turbidity (NTU)	1.5	1.1	2.3	Y = antilog (0.888 (log Q) – 0.981)
Alkalinity (mg/l)	98	89	104	Y = -50.25 (log Q) + 168.52
Hardness (mg/l)	120	110	125	Y = -40.8625 (log Q) + 175.8628

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2O. Definition of Existing Water Quality: Milford ICP

Delaware River at Milford-U. Black Eddy Bridge, NJ/PA, River Mile 167.70

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	0.05	
Chloride (mg/l)	17	15	20	Y = -0.00027835 Q + 20.221
Chlorophyll a (mg/m^3)	1.80	0.90	2.70	
Dissolved Oxygen (mg/l) mid-day *	8.74	8.20	8.96	
Dissolved Oxygen Saturation (%)	96%	95%	97%	
E. coli (colonies/100 ml)	28	15	60	Y = antilog (0.00004814 Q + 0.905)
Enterococcus (colonies/100 ml)	45	28	98	
Fecal coliform (colonies/100 ml) *	60	40	120	Y = antilog (0.00004177 Q + 1.2688)
Nitrate NO3-N (mg/l) *	1.09	0.96	1.25	
Orthophosphate (mg/l)	0.04	0.04	0.07	
pH	7.58	7.44	7.80	
Specific Conductance (umhos/cm)	189	159	203	Y = -0.00313416 Q + 212.42
Total Dissolved Solids (mg/l)	149	130	160	Y = -0.00270722 Q + 173.806
Total Kjeldahl Nitrogen (mg/l)	0.34	0.26	0.46	
Total Nitrogen (mg/l) *	1.48	1.23	1.68	
Total Phosphorus (mg/l) *	0.09	0.07	0.12	
Total Suspended Solids (mg/l) *	6.0	4.5	7.0	Y = 0.0006379 Q + 0.3729
Turbidity (NTU)	2.9	2.2	3.8	Y = antilog (0.00002693 Q + 0.1674)
Alkalinity (mg/l)	44	37	49	Y = -0.00087657 Q + 51.613
Hardness (mg/l)	67	55	73	Y = -0.0011369 Q + 74.63

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2P. Definition of Existing Water Quality: Nishisakawick Creek BCP

Nishisakawick Creek, New Jersey, River Mile 164.10 – 0.35
Boundary Control Point is located at Route 12 bridge, Frenchtown.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	0.06	
Chloride (mg/l)	15	14	16	
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	9.65	9.11	10.10	
Dissolved Oxygen Saturation (%)	101%	99%	105%	
E. coli (colonies/100 ml)	48	20	96	Y = antilog (0.5217 (log Q) + 1.5665)
Enterococcus (colonies/100 ml)	240 **	170 **	790 **	
Fecal coliform (colonies/100 ml) *	85	50	120	
Nitrate NO3-N (mg/l) *	1.62	1.52	1.83	
Orthophosphate (mg/l)	0.04	0.03	0.05	
pH	7.89	7.56	8.00	
Specific Conductance (umhos/cm)	181	176	190	Y = -24.8604 (log Q) + 189.4554
Total Dissolved Solids (mg/l)	130	120	144	Y = -0.9989 Q + 139.9081
Total Kjeldahl Nitrogen (mg/l)	0.35	0.21	0.59	
Total Nitrogen (mg/l) *	2.09	1.70	2.39	
Total Phosphorus (mg/l) *	0.06	0.05	0.07	
Total Suspended Solids (mg/l) *	1.5	1.0	2.0	
Turbidity (NTU)	1.3	0.9	2.0	Y = antilog (0.0315 Q – 0.1328)
Alkalinity (mg/l)	45	40	51	Y = -16.39 (log Q) + 55.14
Hardness (mg/l)	60	59	65	Y = -12.5184 (log Q) + 66.8341

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

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** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2Q. Definition of Existing Water Quality: Tinicum Creek BCP

Tinicum Creek, Pennsylvania, River Mile 161.60 – 0.24
Boundary Control Point is located on private property by Tinicum Creek Road, just below confluence of first unnamed tributary.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	14	12	16	
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	9.80	8.90	10.10	
Dissolved Oxygen Saturation (%)	104%	101%	107%	
E. coli (colonies/100 ml)	80	55	180	
Enterococcus (colonies/100 ml)	200	96	340	
Fecal coliform (colonies/100 ml) *	155	124	280 **	
Nitrate NO3-N (mg/l) *	0.79	0.64	1.00	
Orthophosphate (mg/l)	0.01	0.01	0.02	
pH	8.00	7.70	8.30	
Specific Conductance (umhos/cm)	247	219	262	Y = -69.3482 (log Q) + 285.899
Total Dissolved Solids (mg/l)	180	170	190	Y = -39.2799 (log Q) + 204.5375
Total Kjeldahl Nitrogen (mg/l)	0.30	0.13	0.41	
Total Nitrogen (mg/l) *	1.14	0.79	1.23	
Total Phosphorus (mg/l) *	0.04	0.03	0.04	
Total Suspended Solids (mg/l) *	2.0	1.0	3.0	
Turbidity (NTU)	1.1	0.9	1.8	Y = antilog (0.4453 (log Q) – 0.2226)
Alkalinity (mg/l)	61	52	72	Y = -19.56 (log Q) + 75.97
Hardness (mg/l)	91	75	101	Y = -29.6089 (log Q) + 113.3701

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2R. Definition of Existing Water Quality: Tohickon Creek BCP

Tohickon Creek, Pennsylvania, River Mile 157.00 – 0.19
Boundary Control Point is located at the Delaware Canal Aqueduct crossing in Point Pleasant.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	27	25	29	Y = -4.6046 (log Q) + 34.3562
Chlorophyll a (mg/m^3)	2.14	1.07	3.20	
Dissolved Oxygen (mg/l) mid-day *	9.06	8.60	9.20	
Dissolved Oxygen Saturation (%)	100%	98%	103%	
E. coli (colonies/100 ml)	38	20	60	Y = antilog (0.8609 (log Q) + 0.2319)
Enterococcus (colonies/100 ml)	540	250	980	
Fecal coliform (colonies/100 ml) *	90	60	170	Y = antilog (0.6939 (log Q) + 0.9399)
Nitrate NO3-N (mg/l) *	0.63	0.52	0.72	
Orthophosphate (mg/l)	0.015	0.01	0.02	
pH	8.00	7.80	8.20	
Specific Conductance (umhos/cm)	218	212	226	Y = -27.1873 (log Q) + 261.345
Total Dissolved Solids (mg/l)	162	150	170	Y = -27.494 (log Q) + 204.9618
Total Kjeldahl Nitrogen (mg/l)	0.37	0.34	0.49	
Total Nitrogen (mg/l) *	1.03	0.87	1.16	
Total Phosphorus (mg/l) *	0.04	0.04	0.05	
Total Suspended Solids (mg/l) *	2.0	1.0	2.5	
Turbidity (NTU)	1.3	0.9	2.0	Y = antilog (0.5292 (log Q) – 0.6216)
Alkalinity (mg/l)	46	40	49	Y = -8.96 (log Q) + 60
Hardness (mg/l)	64	62	68	Y = -10.6687 (log Q) + 81.5734

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2S. Definition of Existing Water Quality: Paunacussing Creek BCP

Paunacussing Creek, Pennsylvania, River Mile 155.90 – 0.12
Boundary Control Point is located at Route 32 bridge, Lumberville.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	24	23	25	
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	9.42	8.90	9.81	
Dissolved Oxygen Saturation (%)	98%	96%	101%	
E. coli (colonies/100 ml)	28	15	84	Y = antilog (0.742 (log Q) + 1.3102)
Enterococcus (colonies/100 ml)	320	160	520	
Fecal coliform (colonies/100 ml) *	80	60	130	Y = antilog (0.5676 (log Q) + 1.7382)
Nitrate NO3-N (mg/l) *	2.58	2.15	2.75	
Orthophosphate (mg/l)	0.05	0.04	0.05	
pH	7.60	7.47	7.72	
Specific Conductance (umhos/cm)	229	218	242	Y = -18.8373 (log Q) + 238.7433
Total Dissolved Solids (mg/l)	130	120	144	Y = -24.3907 (log Q) + 154.9198
Total Kjeldahl Nitrogen (mg/l)	0.30	0.17	0.36	
Total Nitrogen (mg/l) *	2.96	2.83	3.15	
Total Phosphorus (mg/l) *	0.07	0.06	0.08	
Total Suspended Solids (mg/l) *	1.0	1.0	2.0	
Turbidity (NTU)	0.8	0.5	1.6	
Alkalinity (mg/l)	47	42	55	Y = -13.64 (log Q) + 52.88
Hardness (mg/l)	80	75	85	Y = -12.1905 (log Q) + 84.3707

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2T. Definition of Existing Water Quality: Bulls Island ICP

Delaware River at Bulls Island (Lumberville-Raven Rock) Foot Bridge, PA/NJ, River Mile 155.40

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	17	15	20	Y = -0.00044266 Q + 21.906
Chlorophyll a (mg/m^3)	2.70	1.07	3.20	
Dissolved Oxygen (mg/l) mid-day *	8.80	8.40	9.30	
Dissolved Oxygen Saturation (%)	98%	95%	100%	
E. coli (colonies/100 ml)	40	23	80	
Enterococcus (colonies/100 ml)	49	32	100	
Fecal coliform (colonies/100 ml) *	71	36	90	Y = antilog (0.00003537 Q + 1.3646)
Nitrate NO3-N (mg/l) *	1.00	0.88	1.23	
Orthophosphate (mg/l)	0.04	0.04	0.06	
pH	7.60	7.50	7.74	
Specific Conductance (umhos/cm)	186	170	202	Y = -0.00482529 Q + 229.19
Total Dissolved Solids (mg/l)	140	130	160	Y = -0.00277475 Q + 169.368
Total Kjeldahl Nitrogen (mg/l)	0.32	0.27	0.55	
Total Nitrogen (mg/l) *	1.48	1.26	1.59	
Total Phosphorus (mg/l) *	0.10	0.07	0.12	
Total Suspended Solids (mg/l) *	5.0	4.0	7.0	Y = 0.0007482 Q - 0.48
Turbidity (NTU)	3.8	2.2	6.0	
Alkalinity (mg/l)	45	38	51	Y = -0.00129755 Q + 56.978
Hardness (mg/l)	68	60	72	Y = -0.00134498 Q + 78.78

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted..

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2U. Definition of Existing Water Quality: Lockatong Creek BCP

Lockatong Creek, New Jersey, River Mile 154.00 – 0.75
Boundary Control Point is located at Rosemont-Raven Rock Road bridge.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	13	11	14	Y = -3.0659 (log Q) + 14.6262
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	8.70	8.30	9.10	
Dissolved Oxygen Saturation (%)	94%	90%	96%	
E. coli (colonies/100 ml)	33	20	50	Y = antilog (0.6703 (log Q) + 1.1906)
Enterococcus (colonies/100 ml)	260 **	98 **	480 **	
Fecal coliform (colonies/100 ml) *	32	20	76	Y = antilog (1.0321 (log Q) + 1.1157)
Nitrate NO3-N (mg/l) *	1.13	0.92	1.40	
Orthophosphate (mg/l)	0.03	0.02	0.04	
pH	7.30	7.20	7.50	
Specific Conductance (umhos/cm)	180	165	191	Y = -35.3137 (log Q) + 193.0827
Total Dissolved Solids (mg/l)	140	130	142	Y = -24.7785 (log Q) + 150.0884
Total Kjeldahl Nitrogen (mg/l)	0.39	0.23	0.58	
Total Nitrogen (mg/l) *	1.56	1.26	1.81	
Total Phosphorus (mg/l) *	0.05	0.05	0.06	
Total Suspended Solids (mg/l) *	1.0	0.5	2.0	
Turbidity (NTU)	1.2	0.8	3.0	Y = antilog(0.6517 (log Q) - 0.2066)
Alkalinity (mg/l)	43	35	46	Y = -11.425 (log Q) + 48.85
Hardness (mg/l)	60	56	63	

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2V. Definition of Existing Water Quality: Wickecheoke Creek BCP

Wickecheoke Creek, New Jersey, River Mile 152.51 – 0.21
Boundary Control Point is located at Route 29 bridge, Stockton.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	17	15	18	
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	9.45	8.95	9.90	
Dissolved Oxygen Saturation (%)	101%	96%	104%	
E. coli (colonies/100 ml)	52	40	76	
Enterococcus (colonies/100 ml)	170 **	84 **	300 **	
Fecal coliform (colonies/100 ml) *	92	65	190	
Nitrate NO3-N (mg/l) *	1.83	1.69	2.20	
Orthophosphate (mg/l)	0.03	0.03	0.04	
pH	7.53	7.40	7.70	
Specific Conductance (umhos/cm)	183	175	200	Y = -28.7787 (log Q) + 199.7338
Total Dissolved Solids (mg/l)	130	120	134	Y = -30.5576 (log Q) + 148.5061
Total Kjeldahl Nitrogen (mg/l)	0.44	0.30	0.70	
Total Nitrogen (mg/l) *	2.12	1.99	2.65	
Total Phosphorus (mg/l) *	0.06	0.05	0.07	
Total Suspended Solids (mg/l) *	1.0	0.5	1.5	
Turbidity (NTU)	1.2	0.7	2.0	Y = antilog(0.5729 (log Q) - 0.2123)
Alkalinity (mg/l)	40	33	43	Y = -9.35 (log Q) + 45.46
Hardness (mg/l)	58	51	62	

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted..

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2W. Definition of Existing Water Quality: Lambertville ICP

Delaware River at Lambertville-New Hope Bridge, NJ/PA, River Mile 148.70

Parameter (Y) Note: only the parameters marked (*) are currently used in NMC analysis for new and expanding discharges	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	0.05	
Chloride (mg/l)	18	16	20	Y = -0.00046965 Q + 22.449
Chlorophyll a (mg/m^3)	2.95	2.00	4.70	
Dissolved Oxygen (mg/l) mid-day *	8.50	7.90	8.63	
Dissolved Oxygen Saturation (%)	94%	93%	95%	
E. coli (colonies/100 ml)	40	16	62	Y = antilog (0.00004662 Q + 1.0027)
Enterococcus (colonies/100 ml)	60	38	80	
Fecal coliform (colonies/100 ml) *	55	32	120	Y = antilog (0.00003689 Q + 1.3656)
Nitrate NO3-N (mg/l) *	1.11	0.90	1.28	
Orthophosphate (mg/l)	0.04	0.04	0.07	
pH	7.55	7.40	7.60	
Specific Conductance (umhos/cm)	191	156	207	Y = -0.00448812 Q + 229.4
Total Dissolved Solids (mg/l)	140	127	160	Y = -0.0020763 (log Q) + 159.338
Total Kjeldahl Nitrogen (mg/l)	0.46	0.34	0.66	
Total Nitrogen (mg/l) *	1.56	1.36	1.84	
Total Phosphorus (mg/l) *	0.10	0.08	0.12	
Total Suspended Solids (mg/l) *	6.5	3.5	9.0	Y = 0.00075399 Q – 0.3458
Turbidity (NTU)	2.5	1.8	6.0	Y = antilog (0.00003256 Q + 0.0989)
Alkalinity (mg/l)	46	36	52	Y = -0.00162641 Q + 60.322
Hardness (mg/l)	68	56	77	Y = -0.00146091 Q + 80.092

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2X. Definition of Existing Water Quality: Pidcock Creek BCP

Pidcock Creek, Pennsylvania, River Mile 146.30 – 0.90
Boundary Control Point is located at stone foot bridge within Bowman's Hill Wildflower Preserve.

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	0.05	<0.05	0.06	
Chloride (mg/l)	19	17	21	
Chlorophyll a (mg/m^3)	n/a	n/a	n/a	
Dissolved Oxygen (mg/l) mid-day *	7.45	7.20	8.50	
Dissolved Oxygen Saturation (%)	81%	78%	86%	
E. coli (colonies/100 ml)	91	64	170	Y = antilog (0.6675 (log Q) + 1.5652)
Enterococcus (colonies/100 ml)	485	170	720	
Fecal coliform (colonies/100 ml) *	195	130	310 **	Y = antilog (0.6669 (log Q) + 1.8192)
Nitrate NO3-N (mg/l) *	0.99	0.90	1.28	
Orthophosphate (mg/l)	0.07	0.05	0.08	
pH	7.39	7.20	7.44	
Specific Conductance (umhos/cm)	255	243	276	Y = -45.1671 (log Q) + 281.0884
Total Dissolved Solids (mg/l)	185	170	190	
Total Kjeldahl Nitrogen (mg/l)	0.50	0.28	0.72	
Total Nitrogen (mg/l) *	1.63	1.46	2.09	
Total Phosphorus (mg/l) *	0.10	0.08	0.12	
Total Suspended Solids (mg/l) *	3.0	2.0	4.0	
Turbidity (NTU)	3.7	2.5	5.3	Y = antilog (0.6463 (log Q) + 0.163)
Alkalinity (mg/l)	77	64	87	Y = -27.32 (log Q) + 92.67
Hardness (mg/l)	108	97	110	Y = -15.6248 (log Q) + 112.7103

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2Y. Definition of Existing Water Quality: Washington Crossing ICP

Delaware River at Washington Crossing Bridge, PA/NJ, River Mile 141.80

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	0.05	<0.05	0.09	
Chloride (mg/l)	18	16	20	Y = -0.00032977 Q + 21.336
Chlorophyll a (mg/m^3)	2.30	1.30	4.27	
Dissolved Oxygen (mg/l) mid-day *	8.69	8.46	9.00	
Dissolved Oxygen Saturation (%)	96%	95%	99%	
E. coli (colonies/100 ml)	33	20	60	
Enterococcus (colonies/100 ml)	55	23	90	
Fecal coliform (colonies/100 ml) *	70	48	110	
Nitrate NO3-N (mg/l) *	0.99	0.86	1.20	
Orthophosphate (mg/l)	0.04	0.03	0.06	
pH	7.69	7.52	7.90	
Specific Conductance (umhos/cm)	187	158	206	Y = -0.00579709 Q + 239.8
Total Dissolved Solids (mg/l)	138	130	160	Y = -0.00317926 Q + 175.218
Total Kjeldahl Nitrogen (mg/l)	0.37	0.30	0.64	
Total Nitrogen (mg/l) *	1.47	1.24	1.69	
Total Phosphorus (mg/l) *	0.10	0.07	0.12	
Total Suspended Solids (mg/l) *	6.0	5.0	8.0	Y = 0.0007895 Q + 0.7126
Turbidity (NTU)	4.0	2.4	5.3	
Alkalinity (mg/l)	45	36	50	Y = -0.00128607 Q + 56.134
Hardness (mg/l)	67	53	75	Y = -0.0019019 Q + 82.144

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

Table 2Z. Definition of Existing Water Quality: Trenton ICP

Delaware River at Calhoun Street Bridge, Trenton-Morrisville, NJ/PA, River Mile 134.34

Parameter (Y)	**Definition of Existing Water Quality**			
	Median	**Lower 95%CI**	**Upper 95%CI**	**Flow Relationships** Site specific regression equation.
Ammonia NH3-N (mg/l) *	<0.05	<0.05	<0.05	
Chloride (mg/l)	17	16	21	Y = -0.00046454 Q + 22.687
Chlorophyll a (mg/m^3)	2.70	1.60	4.81	
Dissolved Oxygen (mg/l) mid-day *	8.74	8.40	9.20	
Dissolved Oxygen Saturation (%)	97%	94%	101%	
E. coli (colonies/100 ml)	40	24	65	
Enterococcus (colonies/100 ml)	45	20	80	
Fecal coliform (colonies/100 ml) *	88	60	140	
Nitrate NO3-N (mg/l) *	1.05	0.85	1.21	
Orthophosphate (mg/l)	0.04	0.03	0.06	
pH	7.78	7.56	8.00	
Specific Conductance (umhos/cm)	185	163	202	Y = -0.00563728 Q + 240.35
Total Dissolved Solids (mg/l)	140	130	156	Y = -0.00300322 Q + 169.514
Total Kjeldahl Nitrogen (mg/l)	0.48	0.36	0.58	
Total Nitrogen (mg/l) *	1.45	1.22	1.71	
Total Phosphorus (mg/l) *	0.10	0.07	0.12	
Total Suspended Solids (mg/l) *	6.3	5.0	8.5	Y = 0.00085809 Q – 0.2021
Turbidity (NTU)	2.9	2.2	5.8	
Alkalinity (mg/l)	45	36	50	Y = -0.00160669 Q + 58.973
Hardness (mg/l)	69	60	73	Y = -0.00141561 Q + 79.891

EWQ values represent data collected twice per month from May through September 2000-2004. Total number of samples varied by parameter, however, due to design and sampling constraints.

* Wastewater treatment facility projects subject to the no measurable change requirement must demonstrate no measurable change to EWQ for this parameter. Implementation guidance should be consulted.

** EWQ does not meet DRBC water quality criterion, state water quality criterion or both.

APPENDIX II

Resolution No. 2005-2

A RESOLUTION to temporarily amend the *Water Quality Regulations, Water Code* and *Comprehensive Plan* by classifying the Lower Delaware River as Special Protection Waters.

A RESOLUTION to temporarily amend the *Water Quality Regulations, Water Code* and *Comprehensive Plan* by classifying the Lower Delaware River as Special Protection Waters.

WHEREAS, by Resolution No. 70-3, codified in the Commission's *Water Quality Regulations* at Section 3.10.3.A., the Commission established an antidegradation policy for interstate waters within its jurisdiction, and by Resolutions No. 92-21 and 94-2, it instituted a set of regulations known as the "Special Protection Waters" program to implement this policy in certain portions of the Basin. The program is intended to maintain the quality of interstate waters where existing water quality is better than the established stream quality objectives; and

WHEREAS, in accordance with Section 3.10.3.A.2 of the Commission's *Administrative Manual–Part III, Water Quality Regulations* ("Regulations"), the Delaware Riverkeeper Network submitted to the Commission in April 2001 a nomination petition requesting that the Commission classify the Lower Delaware River – the reach of the main stem Delaware River extending from River Mile 209.5 (the downstream boundary of the Delaware Water Gap National Recreation Area) to River Mile 133.4 (the Head of Tide) – as Special Protection Waters; and

WHEREAS, to be protected as Special Protection Waters, waters must be classified as either "Outstanding Basin Waters" or "Significant Resource Waters," as defined in Section 3.10.3.A.2.a. of the Regulations; and

WHEREAS, "Outstanding Basin Waters" are defined as interstate and contiguous intrastate waters that are contained within the established boundaries of national parks; national wild, scenic and recreational rivers systems; and/or national wildlife refuges that the Commission has classified under Section 3.10.3.A.2.g.1 of the Regulations as having exceptionally high scenic, recreational and ecological values that require special protection; and

WHEREAS, "Significant Resource Waters" are defined as interstate waters that the Commission has classified under Section 3.10.3.A.2.g.2 of the Regulations as having exceptionally high scenic, recreational, ecological, and/or water supply uses that require special protection; and

WHEREAS, data and findings documenting the high quality of scenic, recreational, ecological and water supply attributes of the Lower Delaware River are contained in two studies, a management plan for the Lower Delaware that has received a formal expression of Commission support, a federal designation of the Lower Delaware as part of the national Wild & Scenic Rivers System, and the *Water Resources Plan for the Delaware River Basin* as follows:

- *Water Quality*. Four years of data collected between May 2000 and September 2003, as set forth in the report entitled *Lower Delaware Eligibility Determination for DRBC Declaration of Special Protection Waters* (DRBC, August 2004), demonstrate that water quality in the Lower Delaware River is better than the water quality criteria. Numeric values for existing water quality in the Lower

Delaware are presently being determined, following the recent conclusion of a fifth year of monitoring.

- *Scenic, Recreational and Ecological Values.* The report entitled *Lower Delaware National Wild & Scenic River Study Report* (National Park Service, Northeast Region, 1999) documents that the Lower Delaware River includes islands, wetlands, and diverse ecosystems that support rare and endangered plant and animal species and constitute scenic and recreational amenities.

- *Lower Delaware River Management Plan.* The *Lower Delaware River Management Plan* (August 1997) (LDRMP) contains goals relating to water quality, natural resources, historic resources, recreation, economic development and open space preservation for the Lower Delaware River. The LDRMP was developed by the Lower Delaware River Wild and Scenic River Study Task Force and Local Government Committee, with assistance from the National Park Service, Northeast Field Area. The Commission contributed staff and resources to develop the LDRMP, and upon the plan's completion, the Commission approved Resolution No. 98-2 supporting the LDRMP. Goal 1 of the LDRMP calls for maintaining, and where practical, improving existing water quality in the main stem of the Lower Delaware River and its tributaries.

  The LDRMP sets forth as policies for advancing Goal 1: achieving the highest practical state and federal water quality designation for the river and its tributaries; managing point and nonpoint discharges to minimize adverse impacts on water quality; encouraging the use of Best Management Practices in both agricultural and non-agricultural areas within the river corridor; and discouraging inappropriate development in floodplains, wetlands, steep slopes and buffer strips along the Lower Delaware River and its tributaries.

- *Wild and Scenic Rivers System Designation by Congress.* The President of the United States signed Public Law 106-418 on November 1, 2000, designating portions of the Lower Delaware River as part of the National Wild and Scenic Rivers System. The system was established by Congress in 1968 to preserve the character of rivers with "outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values" and to ensure that designated rivers remain free-flowing (P.L. 106-418, 106th Congress).

- *Basin Plan Goals and Objectives.* The *Water Resources Plan for the Delaware River Basin* (DRBC Watershed Advisory Committee, 2004) ("Basin Plan") contains goals and objectives to ensure adequate supplies of suitable quality water for aquatic ecosystems and wildlife, public water supply, self-supplied domestic water supply, commercial, industrial, agricultural and power uses; and flow-dependent recreation. Among other things, the Basin Plan directs, "[w]here water quality is better than standards for the protection of aquatic life and wildlife, implement anti-degradation regulations, policies and/or other mechanisms to maintain or improve existing water quality"; and

WHEREAS, on the basis of the foregoing studies, findings, plans, and federal designation, the Commission finds that the Lower Delaware River is characterized by exceptionally high scenic, recreational, and ecological values and water supply uses that require special protection; and

WHEREAS, the Lower Delaware River between River Miles 209.5 and 133.4 has exceptionally high scenic, recreational, ecological, and/or water supply uses and thus may be classified as Significant Resource Waters in accordance with Section 3.10.3.A.2 of the Regulations; and

WHEREAS, the Commission wishes to review the numeric values for existing water quality when determined before deciding whether or not to classify certain sections of the Lower Delaware River as Outstanding Basin Waters and whether to make the present Special Protection Waters designation permanent for some or all of the Lower Delaware River; and

WHEREAS, the Commission expects numeric values for existing water quality to be determined no later than July 20, 2005; and

WHEREAS, the Commission intends to review and if appropriate revise the classification of the Lower Delaware River following the determination of numeric values for existing water quality; and

WHEREAS, at the Commission's September 1, 2004 business meeting in West Trenton, New Jersey, the Commission directed staff to prepare an amendment to the *Water Quality Regulations, Water Code* and *Comprehensive Plan* to designate the Lower Delaware as Special Protection Waters; now therefore,

BE IT RESOLVED by the Delaware River Basin Commission:

1. The Commission finds that the section of the Delaware River from River Mile 133.4 to River Mile 209.5, known as the "Lower Delaware River", is characterized by exceptionally high scenic, recreational, ecological and/or water supply values/uses within the meaning of Section 3.10.3.A of the *Water Quality Regulations* and requires special protection in accordance with that section.

2. The Commission thus temporarily amends the *Water Quality Regulations* and *Water Code* as follows:

- Subsection 3.10.3.A.2.g.2)., listing stream reaches classified as Significant Resource Waters, is amended by the addition of the following:

  (b) The Lower Delaware River between River Miles 209.5 (the downstream boundary of the Delaware Water Gap National Recreation Area) and 133.4 (the Head of Tide at Trenton, NJ);

3. All provisions of Section 3.10.3.A.2. shall be in effect for the Lower Delaware River upon the effective date of the amendment approved today except those that depend for implementation upon the use of approved numeric values for existing water quality. Accordingly, the *Water Quality Regulations* and *Water Code* are amended by the addition of the following to Section 3.10.3.A.2.g:

6) For the stream reaches listed in Section 3.10.3.A.2.g.2).(b), all provisions of Section 3.10.3.A.2 shall be in effect except those listed below:

- The requirement at Section 3.10.3A.2.b.2). that "[p]oint and non-point sources from outside the boundaries of stream reaches classified as Significant Resource Waters shall be treated as required and then dispersed in the receiving water so that no measurable change occurs at Boundary and Interstate Special Protection Waters Control Points."

- The requirement of Section 3.10.3A.2.b., read in combination with Section 3.10.3A.2.d.6), that new and expanding wastewater treatment projects discharging to Special Protection Waters may be subject to additional treatment requirements, above and beyond the effluent criteria defining Best Demonstrable Technology, as necessary to ensure no measurable change in existing water quality in Special Protection Waters.

- The requirement at Section 3.10.3A.2.f. that state environmental agencies "shall assure to the extent possible, that existing water quality in Special Protection Waters is not measurably changed by pollution discharged into the intrastate tributary watersheds within their jurisdiction."

Sections 3.10.3.A.2.g.2).(b) and 3.10.3.A.2.g.6). shall expire on September 30, 2005 unless extended by amendment to this rule.* **

4. This Resolution is hereby incorporated in the Commission's *Comprehensive Plan*.

/s/ Fred Nuffer
Fred Nuffer, Chairman *pro tem*

/s/ Pamela M. Bush
Pamela M. Bush, Esq., Commission Secretary

Adopted: January 19, 2005

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*Reflects correction of a clerical error, to conform to the Commission's intent as articulated in the preamble.

**The expiration date of September 30, 2005 was extended by Resolution No. 2005-15 through September 30, 2006.