WASTEWATER BLENDING

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BEFORE THE

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WATER RESOURCES AND ENVIRONMENT

OF THE

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TRANSPORTATION AND
INFRASTRUCTURE
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CONTENTS

TESTIMONY

	Page
Graham, John H., Jr., Assistant Director, Water Quality Control Department, Maryville, Tennessee	12
Hall, John C., President, Hall and Associates	12
Olivieri, Dr. Adam W., Principal Engineer, Vice President, EOA, Inc.	12
Rose, Dr. Joan B., Homer Nowlin Chair in Water Research, Department of Fisheries and Wildlife, Michigan State University	12
Stoner, Nancy, Director, Clean Water Project, Natural Resources Defense Council	12
Stupak, Hon. Bart, a Member of Congress from Michigan	1
Vicory, Alan H., Jr., Executive Director and Chief Engineer, Ohio River Valley Water Sanitation Commission	12

PREPARED STATEMENT SUBMITTED BY MEMBERS OF CONGRESS

Costello, Hon. Jerry F., of Illinois	38
Kelly, Hon. Sue, of New York	84
Miller, Hon. Gary G., of California	85
Stupak, Hon. Bart, of Michigan	112

PREPARED STATEMENTS SUBMITTED BY WITNESSES

Graham, John H., Jr.	40
Hall, John C.	44
Olivieri, Dr. Adam W.	86
Rose, Dr. Joan B.	98
Stoner, Nancy	104
Vicory, Alan H., Jr.	115

SUBMISSIONS FOR THE RECORD

American Public Works Association, Peter B. King, Executive Director, letter, April 12, 2005	120
Arkansas Municipal League, Don A. Zimmerman, Executive Director, letter, April 12, 2005	121
Arkansas Water Environment Association, Roy Reed, Chair, letter, April 8, 2005	123
Association of Metropolitan Sewerage Agencies, Ken Kirk, Executive Director, April 8, 2005	125
Association of Ohio Metropolitan Wastewater Agencies, Michael L. McGlinchy, President, April 11, 2005	129
California Water Environment Association, Steven Agor, President, April 8, 2005	130
Central States Water Environment Association, Inc., James P. Roth, letter, April 12, 2005	131
Carneys Point Township Sewerage Authority, Paul Reed, Chairman, letter, April 12, 2005	132
City of Cheboygan, Gary Good, Superintendent, Cheyboygan, MI, letter, April 12, 2005	134
City of Dayton, Frank Welch, City Manager, Dayton, TN, letter, April 7, 2005	135
City of Dayton Wastewater Treatment Plant, Glenn A. Fraley, Superintendent, Dayton, TN, letter, April 7, 2005	137
City of Detroit Water and Sewerage Department, Victor M. Mercado, Director, fact sheet and letter, April 8, 2005	139

Page

City of Hohenwald, Bob Burklow, Mayor, Hohenwald, TN, letter, April 7, 2005 00142
City of Independence, Water Pollution Control Department, Dick Champion, Jr., Director, April 11, 2005 144
City of Lewisburg, Larry E. Jones, Superintendent, letter, April 7, 2005 145
City of Pulaski, Daniel M. Speer, Mayor, Pulaski, TN, letter, April 6, 2005 147
City of San Leandro, Dean Wilson, Plant Manager, Water Pollution Control Division, San Leandro, CA, letter, April 8, 2005 149
City of Vancouver, Brian K. Carlson, Public Works Director, letter, April 15, 2005 150
Coalition for Clean Water, Edwin A. Thorpe, Executive Director, letter, April 8, 2005 151
East Bay Dischargers Authority, Jennifer Toy, Chair, letter, April 8, 2006 152
First Utility District of Knox County, TN, Ralph McCarter, General Manger, letter, April 12, 2005 153
Florida Water Environment Association Utility Council, Raymond E. Hanson, President, letter, April 7, 2005 154
Genesee County Drain Commissioner's Office, Joseph M. Goergen, Plant Manager, letter, April 12, 2005 155
Greater Lawrence Sanitary District, Richard Hogan, Executive Director, letter, April 11, 2005 156
Indiana Association of Cities and Towns, Matthew C. Greller, Executive Director, letter 158
Indiana Water Environment Association, Herbert L. Corn, President, April 12, 2005 159
Iowa Water Pollution Control Association, Carla J. Schumacher, President, letter, April 12, 2005 160
Joint Meeting of Essex and Union Counties, Samuel T. McGhee, Executive Director, letter, April 8, 2005 161
Kansas Water Environment Association, Martha Tasker, President, letter, April 11, 2005 163
Knoxville Utilites Board, Bill R. Elmore, Senior Vice President and Chief Operating Officer, letter, April 6, 2005 and letter, Mintha E. Roach, Acting President and CEO, January 8, 2004 166
Maryland Association of Municipal Wastewater Agencies, Inc., Julie Pippel, President, letter, April 12, 2005 00171
Michigan Water Environment Association, William Gramlich, President, letter, April 13, 2005 172
Milwaukee Metropolitan Sewerage District, Kevin L. Shafer, Executive Director, letters, April 12, 2005, and February 9, 2004 173
Minnesota Environemntal Science and Economic Review Board, Bruce A, Nelson, President, April 11, 2005 181
National Fisheries Institute, John Connelly, President, letter, April 27, 2005 .. 183
Natural Resources Defense Council Advocacy Center, statement 185
Nemura, Adrienne Denise, P.E., Technical Review of the Katonak-Rose Report on Public Health Risks Associated with Wastewater Blending, and Errors and Inappropriate Inferences Associated between Waterbourne Disease Outbreaks and Blended Effluent in the Katonak-Rose Report 195
New Jersey Water Environment Association, Henry Penley, President, letter, April 8, 2005 206
New York Water Environment Association, Inc., John R. Amend, President, letter, April 12, 2005 208
North Carolina American Water Works Association, Mike E. Richardson, Chairman, letter, April 12, 2005 209
Pennsylvania Municipal Authorities Association, John W. Brosious, Deputy Director, letter 210
Pennsylvania Water Environment Association, letter, April 11, 2005 212
Reply Brief of Intervenor Association of Metropolitan Sewerage Agencies, Case No. 04-5073 213
San Francisco Public Utilities Commission, Thomas J. Franza, Assistant General Manager, Wastewater Enterprise, letter, April 12, 2005 225
Somerset Raritan Valley Sewerage Authority, Glen D. Petrauski, Executive Director, letter, April 4, 2005 226
South Carolina Water Quality Association, Inc., Andy Fairey, President, letter, April 12, 2005 228
Texas Association of Metropolitan Sewerage Agencies, Sharon Hayes, President, Letter, April 12, 2005 229

Page

Urban Areas Coalition, letter, April 15, 2005 230
Virginia Association of Municipal Wastewater Agencies, Inc., Mark A. Haley, President, letter, April 12, 2005 232
Washington-East Washington Joint Authority, R.A. Dami, Executive Director, letter, April 8, 2005 234
Water Environment Services, a Department of Clackmas County, Oregon, R. Kent Squires, Director, letter, April 12, 2005 236
Wayne County , Robert A. Ficano, County Executive, Detroit, MI, letter, April 11, 2005 238
Water Environment Federation, statement 240
West County Agency, E.J. Shalaby, Manager, letter, April 8, 2005 247
West Bay County Regional Wastewater Treatment Plant, Kenneth C. Schott, Plant Superintendent, letter, April 12, 2005 248
West Virginia Municipal Water Quality Association, David Sago, President, letter, April 12, 2005 250
Twenty-eight Organizations in support of a final U.S. Environmental Protection Agency Clean Water Act blending policy, January 21, 2005 251

WASTEWATER BLENDING

Wednesday, April 13, 2005

HOUSE OF REPRESENTATIVES, COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE, SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT, WASHINGTON, D.C.

The subcommittee met, pursuant to call, at 10:00 a.m., in Room 2167, Rayburn House Office Building, Hon. John J. Duncan, Jr. [chairman of the subcommittee], presiding.

Mr. DUNCAN. I want to call this subcommittee meeting of the Water Resources and Environment Subcommittee to order. We have a very distinguished panel of witnesses that we will hear from shortly, but in order to get our colleague, Congressman Stupak, on the way and because we have a chance to discuss these issues and ask questions of our colleagues later on the Floor and at other times, we generally don't ask questions of our member panels.

Ms. Johnson and I have agreed, before we even give our opening statements, to let Bart go ahead and give his statement and then proceed. Then, Bart, you're welcome to stay with us, but we know that you have many, many other things on your schedule. So you may proceed and give the first opening statement in regard to this hearing here this morning.

TESTIMONY OF HONORABLE BART STUPAK, A MEMBER IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. STUPAK. Thank you, Mr. Chairman and Ranking Member Johnson, thank you for the courtesy. I am just down the hall at a markup on the Energy bill that's been going on the third day. So that's been getting a little contentious, so I would like to get back there.

But I really want to thank you for holding this hearing on wastewater blending. My staff will be here, because as I said, I won't be able to stay. Because I would really be interested in hearing from those who support the EPA's proposed policy to dump inadequately treated human waste into our waters, a practice that the EPA refers to as blending.

I guess having worked on this issue for a while now, I anticipate they will probably argue that blending effluent will meet effluent limitations outlined in their discharge permits, or that the costs that will be incurred if blending is not allowed to continue will be astronomical, and that blending is legal, safe and a commonly used practice in this Country.

But you know, for 30 years, since the Clean Water Act, we've been working hard as a Country, we've spent billions of dollars to

clean up our Nation's treatment of water and wastewater in particular. And I just don't want to turn back the clock on 30 years of progress we have made. That's really what it comes down to, when you take a look at this blending policy.

If finalized, it would effectively lift the current prohibition, and the current prohibition on bypassing a crucial secondary phase in treating human waste before it is discharged out into our rivers, our lakes, our streams. Because that second the viruses, the parasites that enter our waterways and our drinking water. It's just as simple as this, people don't want to drink water that has only been partially treated against these pathogens and viruses and parasites from waste.

Those who support the EPA proposed blending policy may argue that the secondary treatment will be safe because the final effluent will still meet discharge standards at the end of the pipe. Well, even if blending sewage meets the end of the pipe discharge limit, it still is the increase of human risk to human health and to the environment. If you look at the current Federal standards, I know this Committee is very familiar with them, there are very few standards that exist for at the end of the pipe. The proposed policy would allow treatment plants to meet these few standards that are on the books by trying to do a massive dilution of sewage with storm water instead of providing effective treatment.

If you take a look at the history of this policy, it was first proposed in 1984 under President Reagan. The Congress and President Reagan said, we don't accept this. It was then proposed again, to do blending in the Clinton Administration. It was rejected there. Well, we're back here now to November of 2003, when the EPA once again is proposing blending.

The EPA regulations are clear. And they define a bypass as, "the intentional diversion of waste streams from any portion of a treatment facility and secondary treatment of human waste is clearly a part of the treatment facility. In fact, secondary treatment is the core of the sewage treatment process."

Current regulations say that the general prohibition on bypassing secondary treatment has an exception. In rare situations where a treatment facility is likely to be damaged or public health is to be harmed or repair to the system to accommodate and fully treat heavy flows cannot be accomplished. If we are going to allow this, facilities should be forced to do a feasibility study on a case-by-case basis rather than just change the rule in all wastewater treatment plants, or at least those municipal wastewater treatment plants, would fall underneath this change.

If you take a look at it, and I'm on the Great Lakes and we all protect our water resources, no matter what State we are, but I'm in the Great Lakes. If you take a look at places like Milwaukee, Cleveland, Toronto, Chicago and others, and Detroit, are dumping billions of gallons of partially treated sewage into our Great Lakes. There was one day last July where 400 cities along the Great Lakes, 400 of them, discharged sewage into our Great Lakes, partially treated sewage. That's 400 cities. Releases are frequent, and under the EPA's proposal, they will become more frequent.

In 2004, and this is according to preliminary data we have, Detroit released wastewater which contained some form of sewage

400 times. That's more than once a day. Four hundred times, just Detroit alone. And Detroit has, I'm not here to knock Detroit, but they have also spent, in trying to improve their system, they have spent now close to a billion dollars trying to improve upon it.

In Michigan, not only is the Great Lakes the world's largest body of fresh water, but it hurts our tourism, it hurts our fishing industry, which is a large industry, and human health is a big concern. Back in 1993, I was in Congress, as I think most of you were with me, Milwaukee had a cryptosporidius outbreak that occurred in Milwaukee. Over 100 people died, over 400,000 people became ill. The parasite that caused this illness, cryptosporidium, is not effectively removed if you do not have the secondary treatment process. So we should not be bypassing. Milwaukee is a good example on why we should not do this.

And I know Milwaukee has taken great steps to try to alleviate their concerns. But this is what's going to happen if we allow blending.

Myself, Congressman Pallone, Congressman Shaw, Congressman Kirk and 132 others of our colleagues signed a letter to the EPA earlier this year urging them not to proceed with this blending proposal. Democrats and Republicans joined in and said, don't do this blending proposal. On March 3rd, Congressman Shaw, Congressman Pallone, Congressman Gilchrest, Congressman Kirk and others representing States from coast to coast, came and we introduced legislation called Save Our Waters from Sewage Act, H.R. 1126. We right now have 77 bipartisan co-sponsors. Our legislation would just prevent the EPA from finalizing the blending policy.

Mr. Chairman, I can go on and on and on. I'll wrap it up just by saying, if we take a look at the President's budget, and not casting stones here, because Congress has the ultimate responsibility here to pass the budget and put the money in. But we see one-third cut in the Clean Water Revolving Loan funds, we see other cuts in the Safe Drinking Water Revolving Loans. And I know it's a tight year. But the health, and for the good of our economy and the health of our American people, I hope we can replace these cuts and not allow this proposal to go through, this blending proposal. I think it's dangerous for our environment, but especially for our human health.

With that, I see I have gone over my time. I appreciate your courtesy. If there are any questions, I will be happy to try to answer them.

Mr. DUNCAN. Well, Bart, as I said earlier, we generally have a policy in this Subcommittee of not having questions to members, as a courtesy to all of our witnesses who have come in from around the country. And because we also have a chance to ask you questions later on. But certainly you are one of our outstanding members and I appreciate very much your concern on this issue. For all the reasons that you've stated, that's why we're starting to look into this.

Do you have anything you wish to say, Ms. Johnson?

Ms. JOHNSON. No, thank you, Mr. Chairman.

Mr. DUNCAN. Okay, well, thank you for coming.

Mr. STUPAK. And thank you for having a hearing shortly after we introduced the legislation. I appreciate it.

Mr. DUNCAN. Thank you.

I want to welcome everyone to our hearing today on wastewater blending. As most people know, there is a great deal of confusion, even at times misinformation about this issue. My goal today is to have a balanced discussion and hopefully come to some reasonable conclusions about when blending is appropriate and when it is not.

Some people say that blending is bad because it involves diverting part of a treatment plant's excess water around its biological treatment unit. Then also, we will have one of our expert witnesses today who says blending protects public health and the environment by increasing wet weather wastewater plant capacity and thereby significantly reducing raw sewage overflows into streams and potentially into homes.

So there you have sort of both sides of the equation. Currently in some parts of the Country, States issue permits that allow wastewater treatment plants to discharge blended wastewater during periods of heavy rain or snow melt. Some of these permits also impose conditions requiring additional treatment of this wastewater. All of these permits require the wastewater treatment plant to meet all applicable Clean Water Act standards before it discharges blended wastewater into a river or lake. That requirement is already in the law.

In other parts of the Country, States cannot issue permits that allow blending because the EPA region will veto the permit. That is the situation in Tennessee. There has been a change of a rule that was in effect for 26 years and a regulation that was in effect for 20 years. So when you have one EPA region saying one thing and one EPA region saying another, that leads of course to some of the confusion and misunderstanding that there is on this issue and that's what this hearing hopefully is about here this morning.

What this means in Tennessee and many other States is that wastewater treatment plants may have to build additional treatment capacity and additional storage capacity, which could cost over $100 million at a single plant, even for small cities. That kind of expenditure is almost impossible to handle for some, to require this expenditure to handle heavy wastewater flows that occur sometimes only once or twice a year.

This is a very important issue. Around the Country, it is estimated that at a minimum, $80 billion, maybe as much as $200 billion of additional infrastructure will have to be built if wastewater blending is not allowed. That's a lot of money. Where are we going to come up with all that, with all these other needs? People are going to have to explain that, I would say.

Since I announced this hearing, I have received over 50 letters from communities in 22 States all over the Country--Missouri, Arkansas, Ohio, California, Illinois, Michigan, Tennessee, Florida, Massachusetts, Indiana, New Jersey, Kansas, Maryland, Minnesota, Pennsylvania, South Carolina, Texas, Virginia, West Virginia, expressing support for the practice of blending and asking for help to ensure that blending remains a wastewater management tool.

My goal today is first, to help people understand what blending is. Very few people even understand what it is. I've heard some people compare blending to the discharge of raw sewage. That's not

true. Blending simply means that less than 100 percent of the wastewater flow receives biological treatment before it is discharged. All the wastewater flow receives some treatment, and all the wastewater meets Clean Water Act standards before it is discharged. All the wastewater meets Clean Water Act standards before it is discharged.

Secondly, I would like to have a balanced discussion of whether or not blending is a practice that is protective of human health and the environment. Some argue that blended wastewater will have more pathogens, as we just heard Congressman Stupak say. Others argue that this is not true.

Third, I would like a balanced discussion of whether or not blending is legal under the Clean Water Act. This relates back to the confusion between the regions that I just mentioned a few moments ago. Some argue that blending is an illegal bypass around treatment. Others argue that it is legitimate plant design and point out that the Clean Water Act does not dictate plant design.

Finally, I would like the witnesses to help us look for a solution to resolve all the controversy and uncertainty surrounding blending and surrounding this issue. I expect each of our witnesses today can agree that a wastewater treatment plant can be designed in a way that allows wastewater to receive protective and cost-effective treatment, even if not all the wastewater goes through a biological treatment unit.

If that is the case, we should not be talking about prohibiting blending, we should be talking about the circumstances and conditions under which blending is appropriate and when it is not.

I want to hear from each witness about how we can reach a consensus so that blending can hopefully in some way be a win-win both for public health and the communities.

Now let me turn things over to our very distinguished Ranking Member, Ms. Johnson.

Ms. JOHNSON. Thank you very much, Mr. Chairman, for holding this hearing today on the practice of blending under the Clean Water Act.

There are two questions that should be answered regarding blending. One is, is it permissible under the Clean Water Act and its implementing regulations; and two, is it protective of human health and the environment. To both questions, there is no agreement. Within the Environmental Protection Agency there is disagreement over whether blending is authorized under the Clean Water Act regulations. EPA has not taken a uniform position around the Country.

Unfortunately, we will not hear from them today and their views. Perhaps though in the future EPA could explain its position to the Committee and eliminate some of the confusion that surrounds the issue.

Let me talk about what we know and what we do not know about sewage blending. We know that blending is conducted in some areas of the Country and prohibited in others. We know that there are insufficient data as to whether blending is protective of human health and the environment. We know that the Nation does not have the resources to provide full treatment of every drop of water, 100 percent of the time, and that there will be times when

less than full treatment is allowed, such as under the current bypass rules.

We know that while blending may or may not cause an increase in the concentration of pathogens and other pollutants, it certainly increases the total mass of those pollutants in receiving waters. We know that blending is a distinct issue from both the elimination of combined sewage overflow and storm water discharges. Blending involves sanitary sewers and partially treated sewage. We know that the Clean Water Act allows EPA to define by regulation the technology-based standard that constitutes secondary treatment. But we do not know whether blending is consistent with that standard.

We know that a major cause of extremely high flow is infiltration inflow from aging collection systems. As systems age, infiltration inflow has a tendency to increase. We know that while communities are addressing infrastructure needs, they continue to face a funding gap in excess of $300 billion over the next 20 years. And clearly, we need to focus on reducing infiltration inflow and minimize the instances by which any bypass should be necessary.

If nothing else, I believe that today's hearing will demonstrate that the cuts in Federal spending for wastewater infrastructure are extremely ill-advised. Worldwide, someone who is ill because of polluted water occupies every second hospital bed. Six thousand children die every day from an illness caused by the lack of sanitary facilities.

People think that that cannot happen here. Yet in the last decade, 104 people died and over 400,000 became ill because of the cryptosporidium in Milwaukee's drinking water. And it's present in the waste stream and highly resistant to disinfectants such as chlorine.

Secondary treatment is the best way to reduce the introduction of cryptosporidium from wastewater treatment plants. Mr. Chairman, clean water and safe water is a right for every American. We should tread cautiously where any action could imperil this precious resource. I look forward to hearing the witnesses, though I'm in a markup in another committee, I might have to dash out. But I thank the witnesses for being here and thank you for the hearing.

Mr. DUNCAN. Thank you very much, Ms. Johnson. Does anyone else have a statement they wish to make? Mr. Gilchrest.

Mr. GILCHREST. Thank you, Mr. Chairman. I have a markup on the Energy bill in the Resources Committee. So after my statement I am going to have to leave.

Mr. DUNCAN. Well, I'll tell you, we're all in that situation. I've got markups going in two other committees. It's a busy, busy day.

Mr. GILCHREST. Maybe I'll just stay here, and I won't have to worry about the votes.

[Laughter.]

Mr. DUNCAN. Go ahead.

Mr. GILCHREST. Thank you, Mr. Chairman.

I am going to address specifically the issue of the Chesapeake Bay and the Chesapeake Bay watershed and blending. One of the problems in the Chesapeake Bay is that it is extremely shallow, extremely fragile and extremely vulnerable to human activity. The biggest problem in the bay, and there are a lot of problems, I think

we should outlaw during this next markup, Mr. Chairman, cigarette boats and big power boats, because not only are they noisy, they create a great deal of disturbance with the sediment in the water. But that's for another day.

The nitrogen is a key issue to the degradation of the Chesapeake Bay. What we're doing now is ensuring that all plants have biological nutrient removal mechanisms. In the next few years, we're going to enhance that. There is well over a million pounds of nitrogen that gets flushed into the bay ever year. And we have targeted sewage treatment plants. The next will deal with the conservation efforts of agriculture, we're dealing with storm water runoff and so on. We have a plan over the next ten years to deal specifically with nitrogen.

It seems to me that if we use blending, it reduces the incentive and the motivation to target that specific nutrient of nitrogen. We get nitrogen from the air, we get nitrogen from agriculture, storm water runoff. Specifically the easiest fix for nitrogen in the short run is sewage treatment plants.

I look forward to further discussions on this. I certainly would like to talk to the witnesses as we go along. Because if you can show me that blending will help us stay on track with reducing nitrogen by 30 million pounds a year, that's our goal, take that right out of the system, then I'll go along with this program.

But I don't see how blending, with releasing, the old saying in the 1960s was, the solution to pollution is dilution, maybe that's delusionary, I don't know. And I'm not sure if I said that right.

But in this case, nitrogen is water soluble. That baby just goes right through there, and I don't see how blending can reduce the amount of nitrogen that goes into the Chesapeake Bay. So I look forward to working with EPA on this issue. It may work in some other place, but it's really difficult for me to see how it would work in the Chesapeake Bay.

Thank you very much, Mr. Chairman.

Mr. DUNCAN. Thank you, Mr. Gilchrest. Anybody else? All right. We go by seniority first, so I'll go—did you have a statement, Mr. Pascrell? All right, go ahead.

Mr. PASCRELL. Thank you, Mr. Chairman.

This issue of wastewater blending, and I want to associate myself with many of the remarks that the gentleman from Maryland just expressed. This is not an easy issue. I'm sorry we don't have the EPA here to have dialogue, but obviously there's a reason for that.

I think that we can come to some conclusions here that would, maybe I'm foolish enough to think this, that would satisfy the environmental community as well as the EPA and the Congress, more important. I think that's possible. The reason why I think it's possible is that the Chairman of this Committee has been the main reason for the fairness of the Committee. I say what I mean usually, right?

There's no question that all of the communities out there that are struggling to meet the requirements of the Clean Water Act do not have the resources to do that, and you know, we've struggled over this, we've authorized. We still don't have appropriations. This is serious business. Then when we look at the budget, hundreds of billions of dollars are needed to meet the real and pressing needs.

So I must be honest with you, today if there was a vote taken, I couldn't support the process of blending. But I believe we could come to a conclusion whereby it is acceptable under very specific standards. I think we can do this. And I think the gentleman from Maryland set the pace. The money to make upgrades must come from somewhere, though. It's not going to fall out of the sky. The state of the communities and the state of the States is not very good.

So we have to step up to the plate, since apparently the state of the Union is so terrific. Or is it?

But we have to find the money to do this. I think this is a priority. We've made clean water a priority, Mr. Chairman, and I have faith in the direction you bring us in. But I hope that the EPA will have dialogue with us and not simply hand something down.

Thank you.

Mr. DUNCAN. Well, we will have the EPA here at another time, if we have some interest. But we just have this panel, in fact, I think a very balanced panel of all sides here for this hearing today so we can all learn more about this.

Ms. Tauscher, did you wish to make a statement?

Ms. TAUSCHER. Yes, thank you, Mr. Chairman, and thank you for holding this hearing today on an issue which I know is of importance to all of our constituents, and thank you for allowing me the opportunity to make a brief statement.

The need to ensure clean water and protect our Nation's waterways from harmful discharge, including inadequately treated sewage, should be of paramount importance to all of us. First, and while it may not be the main concern of this morning's hearing, I believe that today's discussion of blending would be well served if it also included a discussion of Federal infrastructure financing and funding. We have done less than an adequate job in ensuring that Federal financing is available to meet the growing water infrastructure needs of this Nation. Unfortunately, the trend continues this year.

Under the fiscal year 2006 budget, the Clean Water State Revolving Fund, the Federal funding which is responsible for assisting with infrastructure development, will be decreased by $370 million. At a time when every infrastructure dollar is valuable and we are asking our publicly-owned treatment works to meet stringent clean water standards, the Federal Government cannot abandon its role as partner in this process.

Mr. Chairman, I have worked with my good friend Sue Kelly on infrastructure financing in the past. I look forward to continued efforts with her and my colleagues on the Subcommittee. Briefly, Mr. Chairman, like many of our colleagues and like a number of the panelists here today, I believe that the EPA's proposed blending policy is overly broad, and I fear that it may lead to the use of blending as a too-common practice. Our guidance on blending should be derived from the Clean Water Act itself, which states that an operator may bypass secondary treatment if it is, "unavoidable to prevent loss of life, personal injury or severe property damage" which includes "damage to treatment facilities which causes them to become inoperable."

Blending should never be a common practice. I also understand that across the Nation, responsible POTWs have made substantial infrastructure investments to address the negative effects of wet weather events. In my own district, investments of more than $650 million have been made to build wet weather storage facilities and address the issue of infiltration and inflow into the system due to rainfall, snow melt and resulting high groundwater levels. We must protect both these investments and our duty to clean water by ensuring that blending does not become a common practice, but in extremely limited circumstances, a final way to address serious inflows.

Of course, Mr. Chairman, I believe we all agree that our goal should be to end the practice of blending in order to ensure clean water. I look forward to today's panelists addressing the technological and infrastructure needs, which will allow all of us to move to that standard.

Mr. Chairman, I yield back the balance of my time. Thank you.

Mr. DUNCAN. Thank you very much.

Mrs. Schwartz.

Mrs. SCHWARTZ. Thank you, Mr. Chairman. Thank you for holding this hearing today, and I appreciate again the opportunity to share some opening comments.

I also wanted to acknowledge our colleague, Bart Stupak, who has taken such a leadership role on addressing the concerns many of us share about the proposed changes that are being made by the EPA. I think a number of us here represent areas, if not all of us, that have river ways, streams and really are very deeply concerned about what this change could mean to our districts.

Certainly the concerns about the discharge of large amounts of untreated sewage in the event of what seems like a very general category of wet weather is something that many of us are really concerned about. I look forward to the panel and hearing what they have to say.

After 30 years of really active work on cleaning up our waterways under the Clean Water Act, we have been able to not only protect the health of Americans by guaranteeing better, cleaner water, but I know in Pennsylvania we have just seen enormous opportunities from cleaner rivers and cleaner streams. That relates to of course recreation and the kind of fishing that's come back.

We've seen rivers in Pittsburgh and Philadelphia being used for recreation and for economic development in ways that were really unimaginable given the unsafe, the lack of safety in the water four years ago. Lake Erie is completely different, and the city of Erie would tell you that, that the opportunities there are really enormous. I see that in my own district and in the Delaware riverfront some of the opportunities that exist now because it is cleaner and healthier.

Having said that, there are over 9,000 miles of rivers, lakes and streams in Pennsylvania that are considered too polluted to be safe for fishing or swimming. So the possibility that we might in fact be moving backwards rather than moving forward and being able to guarantee a safer waterways and safer water is really something that concerns me greatly.

Let me also state one other point. We have also seen, and Pennsylvania has an aging infrastructure in water and sewer. As a State senator, we addressed some of this in trying to provide some funding for replacement of some of these aging systems. But having said that, we know that we have actually put in, I know the city of Philadelphia has put in large sums of dollars to improve the water and sewer infrastructure. What we don't also want to do is to set a standard where we end up saying we're going to discourage those kinds of investments and in fact create incentives for any local community that has failed to do that. That would be moving in the absolutely wrong direction.

Interesting little side note, Philadelphia actually had one of the earliest leaders in water treatment, its water works. We have just renovated it for historic purposes, you can come visit it on the Schulkyll River. We really were leading the way in the early 19th century on some of the ways we've treated our water. So I don't want to see us go backwards, either because of the effect on the health of our constituents, the health of all Americans, or the opportunity to use our river ways for recreation and economic development.

So my questions for the panel will really be simply, how this moves us forward in guaranteeing clean water for the American public. If it moves us backwards, that certainly is the wrong direction. So I look forward to the panel and to the questions we will have an opportunity to ask.

Thank you, Mr. Chairman.

Mr. DUNCAN. Well, thank you very much, Mrs. Schwartz.

We are going to go ahead and ask the panel to start taking their seats. Oh, Ms. Norton.

Ms. NORTON. Thank you, Mr. Chairman. I have only a few brief words to say. The subject is of special interest to me. If there are any real shortcuts, I'd like to hear them. because this region has one of the worst storm water overflow problems, I'm sure, in the United States. It comes because the system was originally built by the Corps of Engineers, we face a billion dollar problem.

Frankly, there's blending, all right, the kind of blending we don't want, it's the kind of blending we're afraid of. Because when the water just overflows, there it goes into the Anacostia and the Potomac, ultimately into the Chesapeake Bay. Obviously if there was a shortcut that worked, that was not a threat to waterways and to water, everybody would embrace that.

One really wonders if you can get around, yes, the very costly process of renewing our water infrastructure, which was often built, sometimes a century ago. For most localities in the United States, it's very old. When roads get to be old, you recognize that at some point they have to be fixed or reconstructed or paved. That is not the way we have dealt with the infrastructure for our water.

I must say, you will find me very skeptical that blending is a shortcut that preserves the health of the American people and that preserves the health of our waterways. If there is a shortcut, despite my skepticism, I will be very open to considering it.

Thank you, Mr. Chairman.

Mr. DUNCAN. Thank you very much, Ms. Norton.

As most of you know, the American Society of Civil Engineers recently graded the condition of the infrastructure throughout the country. They gave the wastewater infrastructure a grade of D minus. Ms. Johnson mentioned the estimated cost of the needs, the CBO, the Congressional Budget Office, the EPA and the Water Infrastructure Network estimated that the gap between current spending and needs investment could be as high as $200 billion or more over the next 20 years. Of course, Ms. Johnson referred to an even higher estimate.

The problem is, much of this infrastructure is underground, and people just do not realize that the aging that Ms. Norton talked about.

I read four or five years ago, a column that said you could put every family of four in the State of Texas and give them three acres of land each and leave the whole rest of the Country totally empty. It's just impossible to comprehend how huge this Country is and how much land there is, how much open space there is. But having said that, everybody is still moving out of the rural areas, because they say they want land, but they really don't. They want to be near the malls and the movie theaters. So most of our urban areas around the country are having these tremendous population increases, and increasing greatly the demands on the system.

We passed a couple of years ago in this Committee, because this Committee was involved with it, in its origination, a combination of the Clean Water Act. As the New Republic Magazine pointed out about four years ago, the air and the water are both much, much cleaner than they were 30 years ago. We have made tremendous progress.

But because of these increasing demands and the aging infrastructure, we have to continue to do more and do better. That's what this hearing is about.

So I'm very pleased to introduce a very distinguished panel. We have Mr. Alan H. Vicory, Executive Director and Chief Engineer of the Ohio River Valley Water Sanitation Commission, from Cincinnati, Ohio; we have Mr. John H. Graham, Jr., Assistant Director of Water Quality Control Department, Maryville, Tennessee, in my district, one of my bosses. Glad to have you here, Mr. Graham.

Dr. Joan B. Rose, Homer Nowlin Chair in Water Research, of the Department of Fisheries and Wildlife from Michigan State University in Lansing, Michigan; Dr. Adam W. Olivieri, Principal Engineer and Vice President, EOA, Inc.; Ms. Nancy Stoner, Director of the Clean Water Project for the Natural Resources Defense Council here in Washington, D.C.; and Mr. John C. Hall, President of Hall and Associates, also here in Washington.

We certainly appreciate all of you taking time out from your busy schedules to come and be with us. We always proceed in the order the panelists are listed on the call of the hearing. That means, Mr. Vicory, you may go first. Your full statements will be placed in the record. All the committees and subcommittees, I think, in this Congress give the witnesses five minutes. We give the witnesses six minutes, but we cut you off. We bang the gavel at that six minutes, not to be impolite to you, but in consideration of the other witnesses.

So Mr. Vicory, you may begin.

TESTIMONY OF ALAN H. VICORY, JR., EXECUTIVE DIRECTOR AND CHIEF ENGINEER, OHIO RIVER VALLEY WATER SANITATION COMMISSION; JOHN H. GRAHAM, JR., ASSISTANT DIRECTOR, WATER QUALITY CONTROL DEPARTMENT, MARYVILLE, TENNESSEE; DR. JOAN B. ROSE, HOMER NOWLIN CHAIR IN WATER RESEARCH, DEPARTMENT OF FISHERIES AND WILDLIFE, MICHIGAN STATE UNIVERSITY; DR. ADAM W. OLIVIERI, PRINCIPAL ENGINEER, VICE PRESIDENT, EOA, INC.; NANCY STONER, DIRECTOR, CLEAN WATER PROJECT, NATURAL RESOURCES DEFENSE COUNCIL; JOHN C. HALL, PRESIDENT, HALL AND ASSOCIATES

Mr. VICORY. Thank you very much, Chairman Duncan and Congresswoman Johnson, Members of the Committee. I am pleased to be here today to talk about the issue of wastewater blending from a wastewater perspective. I think it's good to start out to talk a little bit about my employer, ORSANCO is the acronym for the formal name that you've mentioned. ORSANCO is an interstate compact commission, established in 1948 to abate interstate water pollution. Signatories to the compact are all the States along the Ohio River, some of which you mentioned earlier, as well as New York and Virginia. ORSANCO's board of commissioners are appointed by the Governors to represent their respective States, and there are several commissioners appointed by the President of the United States to represent the Federal viewpoint.

Now, the compact under which we operate has been adopted in each of the States' laws and sanctioned by the U.S. Congress. As such, it is an agency with regulatory powers on equal par with any and all agencies that we work with, including U.S. EPA. Among the powers of ORSANCO is to adopt standards of treatment for discharges to interstate streams in the Ohio Valley that the commission deems necessary to achieve the compact's objectives.

Now, blending is a concept that's not new to ORSANCO. In 1997, this commission, after notice and public hearing, adopted in its regulatory requirements, and I have a copy here and I'd be glad to submit that if you're interested in it, adopted in its regulatory requirements the availability for blending to be practiced at municipal wastewater treatment plants, serving combined sewer areas that have primary treatment in excess of secondary treatment capacity. Our regulations focus on maximizing the treatment of wet weather flows from CSO systems, and thereby reducing the frequency and duration of sewer overflow events.

Blending facilities in our jurisdiction must be properly maintained, provide maximum flow-through secondary, and ultimately, and I'd like to emphasize this one, meet Ohio River water quality standards.

As the director of ORSANCO now for 18 years, I recall fairly vividly the discussions in 1996 about this issue. There really wasn't a great deal of discussion amongst the commissioners. There was a pretty strong consensus that the prevailing feeling should be, in our blending policy, as it states, the need to promote the maximum amount of treatment and disinfection to the maximum amount of flows. Otherwise, as our blending policy recognizes, untreated sewage, totally untreated sewage, could be released elsewhere in a combined sewer system and water quality would suffer.

Now, ORSANCO, I think our track record in water pollution stands on its own. This organization adopted secondary treatment two years before the Federal Clean Water Act, and was instrumental in the science issue of bacterial standards for rivers. So our track record, I think, in terms of being on the edge, if you will, in water pollution control I think is there.

But our board of commissioners, inasmuch as they represent in the body of 27 people, State agency representatives, State EPAs, U.S. EPA is on the commission, water and wastewater utility administrators, folks from the legal profession, folks from industry, that ORSANCO's requirements focus themselves on the Ohio River, a large stream, and tend to be a bit broader, and in a sense, pragmatic and broad-based in its concept. I think that's important to point out.

I think our policy that we have on the books speaks to this. And again, if we did not have the policy in place, I think we would have situations in some communities, at least, where if the flows were not received for at least primary treatment they would be released as combined sewer overflow structures elsewhere in the system. And a concern would be, many of those sewer overflows would be on smaller tributaries, which may present an even higher level of public health risk.

In addition, if blending were not possible, I think it would probably exacerbate the already huge challenge that municipal treatment facilities have in trying to manage the avalanche of wet weather flows that they typically receive, given the fact that we have many older communities in the Ohio River area, Pittsburgh, Cincinnati, Louisville, Wheeling, West Virginia. Among those four communities alone we probably have upwards of a thousand combined sewer overflow points.

Now, ORSANCO doesn't view blending as an expedient substitute for proper management of wastewater infrastructure, or of wet weather flows. Blending is but one of a suite of integrated actions that communities need to be looking forward to and implementing at the end of the day by the best regime for managing wet weather flows. Cincinnati alone is going to be spending a billion and a half dollars over the next 20 years correcting its sewer overflow points. And so it's just very important that we try to use the facilities that we have to the maximum extent.

It's important, I point out that this is a policy for the Ohio River. It may not be best policy elsewhere. There's lots of different regimes out there, and in my testimony I indicate some of the important questions that perhaps need to be reviewed, if you will, in the context of looking at the possibility of blending and some of the other areas. That's there for the record.

I want to kind of sum up that there's been some concern about the possibility that blending being available might precipitate communities using that possibility cavalierly. My experience in working with wastewater treatment utilities on the Ohio River and nationally is that these people are professionals, this is what they do. They really want to provide the maximum amount of treatment that they possibly can, given the facilities that they have. And so I conclude, again, with a word of thanks for the opportunity to pro-

vide this testimony and of course, will be available to answer any questions at the proper time.

Mr. BOUSTANY. [Presiding] Mr. Vicory, we thank you for your testimony and look forward to asking questions as we move forward.

Next, the Committee will entertain the testimony of Mr. Graham. Mr. Graham is Assistant Director of the Water Quality Control Department in Maryville, Tennessee. Welcome, Mr. Graham.

Mr. GRAHAM. Good morning, Commissioner, and Chairman. I'd like to thank you for allowing me to testify this morning, and I greet you and the Committee members.

My name is Jack Graham, and I am the Assistant Director of the Water Quality Control Department for the city of Maryville. I am speaking for the city and also for the Tennessee Municipal League. Thank you for holding this important hearing about blending.

Blending is a way of maximizing treatment and protecting the public health. The misinformation on blending is substantial. To help clarify that, I hope to discuss this morning how the issue started, the impacts on our State and how the misinformation has actually delayed the resolution of this issue.

Our wastewater plant, like many others, is designed to blend primary and biologically treated wastewaters to maximize the wet weather flow that can safely be treated prior to disinfection and discharge. By increasing wet weather plant capacity, blending significantly reduces those collection system overflows of raw sewage. We meet the Clean Water Act permit limits for public health and environmental safety in our discharges when blending. The blended discharge is fully protective of the public health.

Blending ensures that the biological system within the plant, which is sensitive to hydraulic changes, is also protected. Many wastewater plants in Tennessee specifically incorporate blending processes as part of their design and have received Federal grants for construction.

Historically in Tennessee, in early 1999, without any public notice, EPA Region IV informed Tennessee that blending violated the Clean Water Act's secondary treatment bypass regulations. This announcement came 20 years after the adoption of the regulations. And based upon EPA Region IV's position, the State began issuing permits that prohibited blending. In June of 2000, EPA called a public meeting in Chattanooga to inform us that blending was prohibited. It was a complete surprise, since EPA itself had approved and funded some of the plants that blend. We found out later that EPA headquarters here in Washington did not approve the Region IV position.

The cost to eliminate blending, and we've done engineering studies on five local plants to us, is in excess of $127 million. Statewide, it's very much significantly higher. This is in addition to the monies we are already spending for infrastructure improvements to our collection systems. A blending prohibition would not benefit the public. Blended, in fact, blended effluent quality of our facility is far better than the water that is currently in our receiving stream.

Given the massive costs and the lack of environmental benefit, the Tennessee Municipal League requested that EPA headquarters

address this matter. EPA headquarters itself has sent a letter and confirmed to Senator Frist and to all the Tennessee delegation that the existing rules do not prohibit blending. Nonetheless, this issue is unresolved.

Our ability as the city of Maryville to plan wastewater facility improvements is at a standstill. We need to and want to design a cost-effective plant expansion. We will meet the discharge limits, we will treat all the flows reaching the plant and we need to protect the biological process. But we can't proceed to get approval and to complete the design until the ongoing regulatory confusion is solved.

Blending must be resolved so that municipal facilities like ours may continue to operate properly and to plan for the future. There are several misconceptions that have come to light. First, the idea that blending will decrease the efforts to maintain the infrastructure. Allowing blending affects the need for cities to invest in their wastewater infrastructure, yes. But we have to control the water that gets to our plant. You can't just keep on expanding plants. Blending allows you to handle the peak flows.

For example, Maryville spends $1.6 million in this coming year on collection system improvements. And we are planning to spend $12 million on a plant expansion. But we need to know what the rules are to let us design that and complete it.

Second, many Congressional offices were informed by activist groups that blending presents a public health threat, even when the permit limits are met. Such claims are a basic attack on the very structure of the Clean Water Act. Moreover, the statements are false.

The Rose Report, issued by NRDC, was based upon a mischaracterization of the Washington, Pennsylvania wastewater plant operations. I know the manager, Ray Dami, and he confirmed that many of the assumptions about plant operations were simply wrong, and that no one from NRDC had ever visited the facility to discuss its operations.

Mr. Dami's correspondence confirms that his plant, first, does not blend raw sewage; the disinfection process operates effectively during peak flows; and that the blended effluent that he discharges is cleaner that the receiving stream. Pennsylvania generally recognizes that body contact recreation does not occur in cold weather. The elderly and small children are not swimming under the conditions assumed in the Rose Report.

Third, some activist organizations have resorted to scare tactics, using outrageous claims to trigger thousands of letters from the general public against blending. Finally, if future research shows that the existing wet weather treatment practices are of concern, then we need to set tight standards with State output and let the engineers and the plant operators tailor the solution to fit the local conditions to meet the Clean Water Act requirements while taking advantage of all the options out there, non-biological processes like disinfection, chlorine or UV, as well as new, innovative technologies. We will get cleaner wastewater for our municipal dollars.

In summary, I would like to thank you all for inviting me to testify and stress that we need a solution to this issue to allow us to

proceed to treat the waters in the best way we can as professionals in the wastewater industry.

Mr. BOUSTANY. Mr. Graham, thank you for your testimony.

The Committee will now hear testimony from Dr. Joan Rose, the Homer Nowlin Chair in Water Research in the Department of Fisheries and Wildlife at Michigan State University, East Lansing, Michigan. Welcome.

Ms. ROSE. Good morning, Mr. Chairman and members of the Committee.

I am a water pollution public health microbiologist. I have been examining wastewater for pathogens for over 20 years. It includes a whole array of different types of microorganisms. Microorganisms actually fall into three categories; that is the bacteria, which include e-coli and are standard fecal coliform; includes the parasites, cryptosporidium and giardia, and you've heard a bit about those; and it includes viruses. That may include something like the Norwalk virus which has caused the cruise ship outbreaks on things like coxsaki-B viruses.

These pathogens do cause disease when they contaminate drinking water. And they do cause disease when they contaminate recreational waters. And we know that our sensitive populations are at greatest risk: that is our young children, our elderly and our immuno-compromised. If they are exposed, they are going to be at the greatest risk.

What have we learned in the last 30 years since the Clean Water Act has passed, especially the last decade, the last 10 years? There are a lot of these contaminants we can now find in untreated sewage, and we have methods now to look. We know that our e-coli and our fecal coliforms, and this has been supported by the National Academy of Sciences, do not represent all constituents of harm in sewage. And you know that in the law there is that leeway to look at the constituents that cause public harm. Our indicators do not represent these pathogens.

I have sampled for viruses and parasites and bacteria in untreated and treated sewage. I would just like to talk a minute about removal by the processes. Primary treatment removes things by settling, by taking the solids, pulling them out. It pulls out some of the big stuff, like the worms, the helmus, they can be removed. But it's not very good at pulling out the little things, particularly the viruses. It pulls out some of the bacteria, pulls out some of the protozoa. And plants vary. You will see ranges of how much primary removes, anywhere from 50 to, say, 90 percent.

Secondary, though, removes more of these organisms. It can remove anywhere from 80 to 99.9 percent. And again, there is a wide range of secondary facilities out there in terms of how they are operating and their design as well as their flow.

I think the people who say primary removes more than secondary have not taken a virus or a parasite sample themselves and examined it. And I don't think they've done an adequate job of looking at the literature. So if we have 1,000 giardia cysts in untreated sewage, we could remove 50 percent by primary, we'll have 500. We could remove 99 percent by secondary, we're going to have 56 left as we discharge. All you have to do is do the math. If you add in more, you're going to add in more.

Now, does present a public risk of going swimming? This is a community issue of how they want to protect their water in the future.

I want to talk briefly about disinfection as well. We know that disinfection is an important process for control of these microbes. And it is influenced by upstream processes. Recent studies by the University of North Carolina and Duke have shown that if you add in increased particles this affects how well you can kill these organisms by both chlorination, the common disinfection process, and UV. So it's going to affect it.

In one case, in one study they actually added secondary effluent, 10 percent, back to drinking water. And we can kill our viruses very well in drinking water. But in this particular study, that destroyed the ability to kill viruses in drinking water, when they added 10 percent of secondary effluent back in.

So we also know that these organisms have varying resistance. Cryptosporidium is extremely resistant to chlorination. We cannot kill it with chlorination. We have to physically remove it. We can kill it with UV. However, the viruses are extremely resistant to UV and more susceptible to chlorination. So we do need to look at all these processes.

I was surprised when I started looking at water quality data on blended effluent. There are some facilities that say they blend. You cannot find the data on the volumes that they combine and you cannot find actual water quality data during blending and non-blending events. I took one facility that had a design and said, this is one way that they may blend, and I did the math.

I also looked at the Milwaukee data, which is minimal, in which you could compare concentrations of e-coli and pathogens in blended and non-blended. Basically, both from a math standpoint and a data standpoint, there was an increase in pathogen concentrations during blending, a thousand-fold increase, in the Milwaukee data, we got a hundred-fold increase in the mathematical calculation.

I think that wastewater treatment and utilities and the industry are unsung heroes. The public doesn't understand the benefit that wastewater provides in many cases. I do think that more monitoring is needed. I do think more investment in treatment and treatment operations and I do believe that in 30 years, we need to look at the standards for protection of public health and take into consideration new criteria and goals for water quality. I appreciate both the State and the Federal leadership in this role.

Thank you.

Mr. BOUSTANY. Dr. Rose, thank you for your testimony.

We will now hear testimony from Dr. Adam Olivieri, Principal Engineer, EOA, Inc., in Oakland, California. Welcome, Dr. Olivieri.

Mr. OLIVIERI. Good morning, Chairman, and members of the Committee. I would like to thank you, Chairman Duncan and the members of this Committee for your continued commitment to clean water issues in California and nationwide. Your dedication to solving the challenges our communities face across the Nation is essential to achieving the goals of the Clean Water Act.

The purpose of my testimony here is to improve the understanding of the public health implications associated with the practice of wastewater treatment plant blending relative to exposure to micro-

bial pathogens. There is significant concern regarding the current practice of blending treated effluent during high treatment plant flow events prior to discharge to local receiving waters and the potential public health risk associated with probably exposure to pathogens in receiving water. My testimony on this subject is based on my education, experience and the evidence in the scientific literature.

There is concern regarding potential public health risk associated with exposure to waters receiving discharge from treatment plants that are blending with stormwaters. However, a number of factors support the use of a risk-based management approach that allows for the continued use of blending under conditions where current water quality criteria are met and public health is protected. It is my understanding that water quality criteria are met in receiving waters at some facilities that utilize blending.

Further, blending is just one part of the puzzle. As will be discussed, risk assessment, including exposure assessment, allows public agencies to sort out what factors are important and provides the foundation for balance risk based management decisions. Today the public awareness and concern about the safety of the Nation's water resources is high, and thus the public expectations are high as well. In the United States, there are over 15,000 wastewater treatment facilities, most providing primary, secondary treatment and some form of disinfection.

When considering infectious diseases implications of human exposure to wastewater, the following factors need to be considered. For water-borne illness or disease to occur, an agent of disease, that is, a pathogen, must be present. The agent must be present in sufficient concentrations to produce disease, or a dose, and a susceptible host must come into contact with the dose in a manner that results in infection or disease.

Although a wide range of pathogens have been identified in raw wastewater, relatively few pathogens appear to be responsible for the majority of waterborne illness caused by pathogens of wastewater origin. The pathogens of public health concern based on foodborne disease in the U.S. were identified by the CDC. Many of these pathogens find their way into domestic wastewater. Although wastewater characteristics are highly variable, there is a high probability that microbial pathogens are present in raw wastewater at any given time and location.

One of the important objectives of wastewater treatment is to remove or inactivate the pathogens. For time, I'll skip a few pages.

Risk assessment has generally been the tool used to estimate risk associated with environmental exposures to pathogens. Exposure is the most important link in the chain of infection and disease. During blending events that coincide with extreme wet weather events, people tend to avoid swimming or recreating in receiving waters. So the potential for human contact is minimal. In other words, the important link, exposure, is missing.

Microbial risk assessment involves evaluating likelihood that an adverse health effect may result from human exposure to one or more pathogens. The infectious disease process in a population is fundamentally a dynamic process. Therefore, the most rigorous and

scientifically defensible approach for mathematically modeling the infectious disease process is to employ a dynamic model.

However, the reported results of a very simple static assessment conducted by Katonak, et al., was used to evaluate the potential public health concerns associated with blending, and represents an estimate of the theoretical probability of illness or infection for a single exposure event for one individual. The static estimate is based on a number of conservative assumptions, for example, knowing inactivation from disinfection. It only provides a gauge from which potential risks to an individual may be evaluated for a single exposure event.

Clearly, as the authors noted, the estimated risks will be lower if all flow is treated. However, the authors estimated risks even though it was based on conservative assumptions, are within the range of risks considered acceptable by U.S. EPA national bacterial water criteria. From a risk management criteria, the number of people exposed during events from blended effluent as discharged must be taken into consideration. Risk of infection disease from a single exposure event above some pre-determined tolerable level does not necessarily imply that public concern is warranted. Specifically, the expected number of cases from an exposure event can be thought of as the product of probability of illness or infection in the number of people exposed.

The protection of public health clearly dictates that when more individuals are potentially exposed to pathogen, a greater level of concern and thus protection is warranted when making risk management decisions. For example, one reason a risk manager may decide to implement a control strategy at a specific location over another can be based on the actual or expected number of individuals potentially exposed.

Water quality regulation strategies endorsed by EPA follow the above public health concept. In the Ambient Water Quality Criteria for Bacteria, EPA defines an acceptable swimming associated gastroenterital illness rate and derives water quality criteria for designated beach areas, moderately used full body contact recreation areas, lightly used full body contact recreation areas, and infrequently used full body contact recreation areas.

In summary, a one-size-fits-all approach to address the potential public health concerns associated with blending would probably divert limited resources towards efforts where a commensurate public health benefit would not be realized. A risk-based management approach would better allow research to be focused on the most important public health concerns and at the same time protect the beneficial use of the receiving waters.

It should be recognized that many aspects of the estimation and evaluation of potential health risks associated with exposure to microbial pathogens during recreational activities and the potential relationship to the use of blending as a management tool to treat wastewater during peak flow conditions are poorly understood. However, based on the above discussion, a number of factors support the use of a risk-based management approach that allows for the continued use of blending under conditions where current water quality criteria are met and the public health is protected.

I hope that above discussion helps improve the understanding of the nature of the public health implications associated with the practice of wastewater treatment plant blending relative to exposure to pathogens. I would be happy to accept any questions.

Mr. BOUSTANY. Thank you, Dr. Olivieri.

The Committee will now recognize Ms. Nancy Stoner, Director of Clean Water Project, Natural Resources Defense Council here in Washington, D.C. Welcome and thank you.

Ms. STONER. Thank you.

Good morning. We are here today because we are at a crossroads in one of the most important Clean Water Act programs: the program to provide secondary treatment for sewage established in the 1972 Clean Water Act. That program has been very successful in reducing the volume of sewage dumped into lakes, rivers and coastal waters. But there's lots of work ahead even to maintain that progress, much less to continue to reduce sewage pollution. EPA is making it difficult for communities by slashing the funding available to them for sewer maintenance and upgrades through America's Clean Water Fund, the Clean Water State Revolving Fund.

NRDC appreciates the leadership of the Chair, the Ranking Member and many other members of the Subcommittee in supporting restoration of that funding to ensure that communities have the resources they need to provide effective sewage treatment.

But this hearing is not primarily about funding, but instead, about treatment standards. Should sewage treatment plants be required to provide effective treatment for sewage under all routine operating conditions, or should they be allowed to skip such treatment and rely primarily on dilution instead of treatment during wet weather. This is a question that I believe Congress already answered back in 1972 when the decision was made to upgrade from primary treatment, which removes only large solids from sewage, to secondary treatment, which typically uses microbes to eat the pollutants in sewage.

Sewage is filled with pollutants that make people sick, close shellfish beds, make beach waters unsafe, contaminate drinking water sources, damage coral reefs, feed toxic algal blooms and rob the water of oxygen that fish need to breathe. Secondary treatment removes the bulk of these pollutants from sewage: bacteria, viruses, parasite, toxic organics, metals, oxygen-depleting substances and solids. It also provides significant removal for nutrient pollution, although advanced removal techniques are needed for discharges into nutrient-impaired waters.

Primary just doesn't do the job. All it does is settle out the larger particles through gravity. No transformation of the sewage takes place. And because primary effluent is so cloudy, it cannot be effectively disinfected. Discharging effluent that has not received secondary treatment does not protect public health or the economy from the adverse effects of sewage pollution: water-borne illness, shellfish contamination, beach closures and so forth.

EPA's proposed blending policy would attempt to legalize discharges of sewage effluent after only solids removal when they are sufficiently diluted to meet end of pipe concentration limits. This policy would put more inadequately treated sewage into the environment. That is why it has been opposed by a number of States,

public health officials, conservation groups, shell fishermen and a number of offices within EPA itself. NRDC requests an opportunity to put into the record its compilation of quotations from those filing objections with EPA on the proposed blending policy.

EPA's proposed policy does not require the use of alternative treatment approaches that have been the subject of much discussion at this hearing. It does not require disinfection; it isn't limited to wet weather events of any particular size; and apparently most importantly to those who support it, it doesn't require an assessment of whether there are feasible alternatives to discharging inadequately treated sewage that should be employed instead.

The assessment of feasible alternatives is the core of what the bypass rule requires. It requires an analysis of the sewage treatment system as a whole, to figure out how to maximize treatment by aligning pipes, cleaning out pipes, offloading stormwater, storing sewage until it can be treated and so forth. Those are the types of measures that have typically been required of sewer operators over the years to reduce excessive infiltration and inflow and assure that sewage can be effectively treated.

EPA's proposed blending policy undermines the incentives for sewer operators to look system-wide for solutions, essentially to fix their leaky sewer system. It's a penny-wise, pound-foolish approach in our view. The problem will only get worse because it isn't being effectively addressed. And remember that leaky pipes not only leak in when it rains, but they also leak out when it doesn't. That is, they leak raw sewage into surface waters and groundwater.

As one sewer operator who served on a panel with me in a Water Environment Federation conference put it, "If you remove excessive infiltration and inflow, you don't need to blend." Exactly. EPA's policy requires sewer systems to fix their problems, not discharge largely untreated sewage because of their failure to do so.

NRDC fully supports and urges every member of the Committee to co-sponsor the Save Our Waters from Sewage Act, H.R. 1126. This bipartisan legislation would block EPA from finalizing its proposed sewage blending policy, require EPA to implement the existing Clean Water Act rule that mandate full sewage treatment under routine operating conditions and require public notification of discharges of inadequately treated sewage.

Finally, let me reiterate that we cannot expect communities to do it alone. The Federal Government needs to assist them, just as it did in the 1970s and 1980s, to maintain and upgrade their aging sewer systems and sewage treatment plants. Surveys show that Americans are well aware of the importance of protecting our rivers, lakes and coastal waters from sewage pollution and are willing to pay for it. We need to move forward with the creation of a long-term funding source, a clean water trust fund which is supported by more than 80 percent of the American public.

I understand that the Subcommittee is planning additional hearings on clean water funding issues and I commend you for doing so. Thank you for inviting me to testify today. I would be happy to answer any questions you may have.

Mr. BOUSTANY. Thank you, Ms. Stoner.

The Committee will now recognize Mr. John Hall, President of Hall and Associates here in Washington, D.C. Thank you, Mr. Hall, and welcome.

Mr. HALL. Thank you, and good morning, Mr. Chairman and Committee members. My name is John Hall. I am speaking today on behalf of municipal organizations from Tennessee, Pennsylvania, Kansas, New Jersey and Minnesota.

Blending is a common wastewater engineering design practice promoted by EPA since the 1970s. Therefore, I was quite surprised when several regional offices began to assert that blending was a prohibited plant design. It's a bedrock principle of the Clean Water Act that the agency does not dictate plant design or the selection of the treatment process to meet the Department limits set. EPA has frequently reiterated this position.

We contacted EPA headquarters in late 1999 to get this matter resolved. EPA headquarters acknowledged that the regional blending prohibitions were never authorized and that "State permitting authorities had considerable flexibility" to permit blending.

EPA was in the process of issuing a blending clarification when advocacy groups began to assert that this was some type of regulatory rollback conjured up by the Bush Administration that would allow the discharge of raw sewage. These groups published ads in newspapers and filed thousands of objections with EPA, making the same assertions. Attached to my testimony is an example of an ad published in the Pittsburgh Press. It states, "We already have too much raw sewage in our water. So why is President Bush making it worse? Stop the blending policy."

H.R. 1126 is apparently a product of these same representations. Blending, however, does not involve the discharge or dumping of raw or inadequately treated wastewater. The wastewater is treated to meet all applicable public health standards.

Now, the primary claims of the various environmental activists have been two-fold. One, that the secondary treatment rule mandates the use of biological treatment, and two, that the bypass rule mandates that all flows pass through all processes at all times. As documented in detail in my written testimony, the preambles to both of these rules, the judicial decisions involving these rules, plainly confirm that designing and operating a plant to blend is not and has never been prohibited under Federal law.

The fact that the bypass rule doesn't prohibit blending explains why EPA routinely grant funded blending facilities throughout the Country. If the activity were illegal under Federal law, the Federal construction grant regulations would have prohibited the funding of these facilities. I worked in that program for four years.

Regarding biological treatments, in 2000, Congress asked EPA to identify the best method for treating wet weather flows. That was part of the Wet Weather Water Quality Act of 2000. EPA's 2004 Congressional Report concluded that non-biological methods were the most effective at addressing pathogens and other pollutants.

The contrary assertions of various activist groups, therefore, don't really have a good factual or legal basis. In particular, NRDC's characterization in their testimony that the 1987 bypass rule, about the bypass rule decision is wrong. In that case, EPA expressly stated and the court agreed that the bypass rule did not

dictate plant design and that split flow and seasonal treatments, which is what blending is, is not a bypass. EPA clarified that the rule was intended to prevent parties from turning off unit processes. Blending certainly doesn't turn off any unit processes. In fact, it promotes the maximum use of the technology. It pushes it to the edge until it can't take any more.

The claims that the bypass rule requires all flows to pass through all processes at all times is simply incorrect. In fact, if such biological treatment were required per H.R. 1126, EPA itself has estimated that the nationwide costs of that requirement would range somewhere between $160 billion and $210 billion. There's a reason for that. Biological treatment is not capable of handling these kinds of dynamic peak flows. So you would have to do something extraordinary to it to make it handle those flows.

Now, in other testimony, the groups have asserted that secondary treatment is essential to pathogen reduction. However, in 1976, EPA specifically amended the secondary treatment rule to eliminate pathogen reduction requirements as unnecessary and environmentally detrimental. EPA stated that, "Pathogen reduction necessitates the use of a separate, non-biological unit process specifically designed for disinfection." As mandated by EPA, States subsequently set water quality standards and set disinfection requirements as needed, seasonally and on a case by case basis for the past 30 years.

Now, there are several critical factual points that were omitted from Dr. Rose's submitted testimony that confirm the pathogen threat in the earlier analysis submitted—greatly exaggerated—and the implied solution, biological treatment, is simply unnecessary. Number one, while claiming cryptosporidium is a grave concern, she failed to inform the Committee that her own blending threat analysis demonstrated that the swimming risk associated with this pathogen in effluent discharges is below the accepted swimming standards. It's not at a threat level.

Secondly, while this organism is certainly resistant to chlorine, it is easily treated with UV disinfection as specified in the detailed study she cited in her report. So if you want to treat it, you don't put in more biological, you put in UV. Last, her testimony acknowledged that giardia and viruses are reduced by chlorine, but her threat analysis gave no credit to chlorine disinfection, thereby significantly overestimating the threat.

In conclusion, blending has been and continues to be one of the most cost-effective means to process peak wet weather flows, while maintaining a high quality effluence. Claims of public health threat or illegal operation are misplaced, and as Mr. Graham testified, disruptive of State programs that seek to minimize overflows while ensuring effective plant operations.

I thank you for your attention to this important issue and would be happy to answer any questions you might have in this regard.

Mr. BOUSTANY. We thank you for your testimony, and now we will start our first round of questions. We appreciate all of your testimony, thank you very much.

Let me start by offering the Ranking Member time to ask questions. Mr. Pascrell?

Mr. PASCRELL. Thank you, Mr. Chairman.

Mr. Hall, blending may be cost-effective, but 30 percent of the water that we assess, and this has been fairly consistent, does not meet water quality standards. Would you please respond to that?

Mr. HALL. Certainly. And actually, there's information—

Mr. PASCRELL. Is that correct or incorrect?

Mr. HALL. Thirty percent of—

Mr. PASCRELL. Of assessed water. We can't assess all the water, all the drinking water. The water that we assess, 30 percent of it is unacceptable. Is that true or untrue in your mind?

Mr. HALL. There are a significant percentage of waters in the State that do not meet bacteriological standards, particularly in wet weather conditions. Failing to meet those standards generally is not a function of municipal wastewater discharges, as demonstrated by the data appended to Mr. Graham's testimony and that for Ray Dami. They measured upstream and downstream of their treatment plants during wet weather. And their effluent were far cleaner. The effluent were below the water quality standards, but the background water coming to them was above the standards. That water was not caused by wastewater discharges.

So what we're seeing around the Country very often is, during wet weather conditions, people walk their cats and dogs, you have animal operations, even in State parks, deer, things like that, you'll see bacteria standards exceeded during wet weather. And I'm not sure that those exceedances actually pose a health threat, because I understand animal bacteria are different from human. But as they are measured by the adopted water quality standards, often the numbers are higher than the applicable standards.

Mr. PASCRELL. Mr. Hall, the figure, as I can find, is a pretty accurate figure. It would seem to me, you're the professional, but it would seem to me that we would want to increase the amount of assessed water as meeting those standards. And I would like to know, Dr. Rose, what did you think of his answer?

Ms. ROSE. Well, as I said, I think that some of, you look at what's going on under the Safe Drinking Water Act and the Drinking Water rules, they are acknowledging the parasites, cryptosporidium and giardia, and viruses as a concern. In fact, in 50 years of outbreak data, there was a significant statistical relationship between rainfall and when there were outbreaks in water supplies. So we know that our drinking water systems are vulnerable during these events and these pathogens are getting in.

One of the problems with the bacterial standards is that they are coming from a variety of sources. But if we look at human enteric viruses or we use source tracking methods, we can show that they are coming from the wastewater.

Mr. PASCRELL. But would you agree with my figure?

Ms. ROSE. Yes, I would, and I think—

Mr. PASCRELL. What do you think about that? Is that acceptable? I mean, to listen to Mr. Hall, and this is not to disagree with him, but to listen to Mr. Hall, that is an acceptable, consistent figure, which if you look back over the last 10 or 15 years, has been around 30 percent, what am I missing here? Shouldn't we be trying to improve that number?

Ms. ROSE. I think that many communities are trying to improve that. If you look at TMDLs and impaired waterways, they are

spending a lot of money on assessment of those waters and the watersheds. If you look at the city of New York and the investment they've made in advanced wastewater treatment, you look at Cincinnati and Kentucky right now, are looking at issues of wastewater treatment, advanced treatment, in fact, upstream of the drinking water supply, closure of beaches. I certainly think that we should be moving in the direction of trying to improve the water quality.

Mr. PASCRELL. Mr. Graham, I listened very carefully to your testimony. It would seem to me, and I want you to get me on the right path, if I'm not on the right path, what we need to do is try to avoid litigation and get everybody in a room and come up with an acceptable solution, which may include blending under specific standards. But when you say we need a solution, that does not necessarily mean we need the solution at hand.

I want your comments.

Mr. GRAHAM. Representative, I do not know what the solution is. I wish I did. But I think where the thrust of national policy and State policy has been is to try and address each set of waters to set standards of what can be discharged into them. I think as has been said by I think everyone up here, blending is one of those tools, along with new technologies that may be coming down the pike, disinfection and other methods of treatment to open the bag of what the engineering tools are to allow operators and plant designers to meet the discharge limits that the environment needs.

I think that's where, not to say blending is the only solution, it isn't. But it is one of those tools that should be left in the bag. When you can meet the discharge limits and you've already got your plant operating at full bore, what do you do with the extra water that comes down? We can discharge it by letting it overflow back upstream, or we can bring it in as blended, provide the maximum amount of treatment we can to it, and then still meet those discharge limits as we put it out into the streams.

Mr. PASCRELL. Ms. Stoner, if I may, Mr. Chairman, just to complete, you said that we are at a crossroads. And we probably heard that 10 years ago, but okay, we'll accept right now we're at a crossroads. Am I naive to ask the question of how do we get the folks in the room to come up with a solution? I mean, in the rules, there's like one paragraph that deals with what are the clean water standards, and there's 300 pages on the exceptions.

So how, in that atmosphere, in that background, in that legacy are we going to get folks that you talked about and that everybody is talking about in a room to come up with something? Do you envision blending never being a possibility under different standards that exist today?

Ms. STONER. No, actually, that's not true. What we're trying to do is to implement the existing rule that says that full treatment should be provided whenever it's feasible—

Mr. PASCRELL. But if that isn't possible, Ms. Stoner, if that's impossible because of the resources that are not available, then we need to have another option, rather than go to court every time there's a problem. That's not solving the problem.

Ms. STONER. I absolutely agree with you. I have always been willing to talk and think that we should be able to solve this, be-

cause the existing rule sets the right standard where blending is disfavored, full treatment is favored, and an analysis needs to be made of the feasible alternatives, so that we can maximize treatment. Everyone here on the panel actually said that they supported maximizing treatment, I believe.

Mr. PASCRELL. Right.

Ms. STONER. That's what I support also. EPA's proposed blending policy does not do that. It says primary treatment, and it says little else in terms of maximizing the treatment. It's not implementing the law. That's what we need to do. And we need to figure out how to do it together.

Mr. PASCRELL. Okay, we've got six experts here whom I have a great deal of respect for. I'd like to put you all in a room with EPA and come up with a solution. You know what's fascinating is that we have tried, we have authorized at the leadership of this Chairman, to authorize, reauthorize legislation to provide funding for the CSO problem that we had. We can't get appropriations.

So you know, we talk out of both sides of our mouths. The fact is that we cannot continue to provide more and more exceptions. We have to look blending straight in the eye, in that is not a total success by any stretch of the imagination. That 30 percent figure should be—we should have a goal of over the next 10 years reducing that 30 percent to 25 or 20 percent. And we are not in the path that we pursue.

Thank you, Mr. Chairman.

Mr. DUNCAN. [Presiding] Well, thank you very much, Mr. Pascrell. Of course, that's one of the purposes of a hearing such as this, that we need to call more attention to these needs. That ultimately, hopefully, and usually does lead to some increased appropriations.

I'm going to go to Dr. Ehlers first, but just let me ask one question. I've got information here that says EPA estimated that the cost of providing biological treatment to all combined sewer flows of between $88 billion and $130 billion. For separate sewer flows estimated cost would be between $79 billion and $83 billion. Collectively, this means a total cost of roughly $80 billion to $200 billion. Most of these costs would be incurred by requiring cities to build sewage facilities to capture all wet weather flows.

Do any of you or all of you agree that those EPA estimates on the costs, if we eliminated blending altogether, would it cost roughly in the $100 billion to $200 billion range, or do you dispute that, Ms. Stoner?

Ms. STONER. EPA is not able to answer a question about where blending currently occurs in the United States and where it doesn't. I've been trying to get that information from EPA for two years. I did a Freedom of Information Act request trying to get it. EPA doesn't know. EPA does not have an estimate of that. It doesn't have an estimate of the health risks, it doesn't have an estimate of a lot of the things that you would want to know and the American public want to know about its own proposed policies.

Mr. DUNCAN. If EPA doesn't have an estimate, do you have an estimate?

Ms. STONER. No, sir, because I don't know which facilities in the United States do or don't blend. But I believe that it is appropriate

to consider costs in terms of the feasibility analysis I just spoke of. Cost is an element of that. It's an element of it in the combined sewer overflow policy which recognizes that this practice is a bypass and should be disfavored and only allowed as an alternative.

Mr. DUNCAN. Let me ask you this. If you don't know which facilities, would there not be a way that you could contact the major facilities around the country, assuming that you can contact them all, the small ones as well as the large ones, but couldn't you contact most of the major facilities and make a sort of an educated guess as to what the costs might be? I mean, it looks like to me like if we talk about eliminating, if somebody wants us to eliminate something, we need to talk about what the costs would be.

Do any of you others have any cost estimates, or do you think that the EPA is correct here in this $200 billion range? What do you think about that, Mr. Graham?

Mr. GRAHAM. Well, Limnotech did the study for EPA. We were one of the utilities that was contacted by Limnotech. Based on talking with them, they tried as best they could to put together a realistic estimate on what the cost was.

If anything, our experience has been, when you try and put an engineering cost to something, you're more likely to have cost overruns, in other words, cost more than the estimate, than to cost less.

Mr. DUNCAN. So in other words, you think the estimates may indeed be low, is that what you're saying?

Mr. GRAHAM. I think they may even be low, yes, sir.

Mr. DUNCAN. Mr. Vicory, you wanted to say something?

Mr. VICORY. Well, as I mentioned in my testimony, the City of Cincinnati is on the hook in a Federal consent decree for a billion and a half dollars over the next 20 years. That cost, the basis of that cost cap is not relief from future additional costs to the city above that. It basically gives them relief in terms of the schedule they have to meet in order to put their, what they call the long-term control plan together for CSOs.

And then at the end of the day, Cincinnati's end result is probably not going to be literally complete capture and full treatment of all the flows that they have. So I think if you take that figure alone and extrapolate it, we're talking obviously a huge amount of money. I know that Atlanta, I believe, and Toledo, New Orleans I believe all have consent decrees that are in these magnitudes of dollars. So I think when you kind of add up in a very rough sense the figures, we're talking about that magnitude. And I have no basis ultimately to refute.

But I know there are some associations out there, such as the Association of Metropolitan Sewerage Agencies, AMSA, they themselves would be a source of information regarding your question, sir.

Mr. DUNCAN. All right, thank you very much. Dr. Ehlers.

Mr. EHLERS. Thank you, Mr. Chairman, and thank you especially for holding this hearing. It's an extremely important issue that our Nation has been struggling with for some time. It's certainly time for resolution.

I happen to come from what I happen to think is a very wonderful community, Grand Rapids, Michigan. We faced, approximately 15 years ago, a mandate from the State to get rid of the combined

sewage overflow. I remember being invited by the city commission to meet with them to explain how they could possibly handle this horribly expensive problem. And I explained the best way to do it is to separate the sewers, which is of course extremely expensive.

I still recall one city commissioner jumping up and screaming at me that, this is something we can't afford, the people won't stand for it, they can't pay for it and so forth. And I countered by saying, yes, it is expensive, but yes, the people will pay for it. They do not like to see sewage flowing downriver. And they're willing to pay to not have that happen.

The upshot is, the city has gone ahead, I'm very proud of my city. They have spent roughly a quarter of a billion dollars, and it's not a large city, 180,000 people. My sewage treatment bills have gone up I would say at least five-fold since then, and that sounds exorbitant. But today, we are fishing in that river. Some people actually swim in the river. And my bills have gone up five-fold, my sewage treatment bill is considerably less than my cable TV bill, even more so less than my telephone bill, less than my cell phone bill, less than my water bill. You go right down the line.

They bonded for it, they got some money from the State revolving fund. The city has simply tackled the problem and I think done a first-rate job and deserves a commendation for that. At the same time, the city of Detroit received the same instructions at the same time, and they are still pouring millions of gallons of sewage into the river and into the Great Lakes system every year.

My point is simply, there are solutions out there. They are not cheap, but the public, I believe, is willing to pay for them. I don't think we should expect the Federal Government to pay for it all. We can help with the revolving loan fund. But communities still have bonding authority and as I say, the public is willing to pay this what I think is still relatively a minimal charge. Typically a monthly charge is less than taking your family out for hamburgers. And I think providing proper treatment for what happens to the hamburgers after you eat them is a reasonable thing to do.

Now, end of sermon. Dr. Rose, I'm sorry I missed your testimony. We have two committee markups going on simultaneously, and I had to be in those. But it's very discouraging reading your testimony, which I've done, all these little critters, viruses, other entities in the water. Let me ask, if you came to a body of water that did not have human habitation nearby, in other words, a lake without cottages on it, or a mountain stream, how many of these organisms would you find in that water, and how dangerous would it be for humans to drink that water?

Ms. ROSE. Well, we do know that all waters will have some level of fecal contamination from a variety of animals. But the more you have humans near that water, the more variety of pathogens you will have, and the greater the concentrations. For example, the viruses, there are over 100 different types of enteric viruses. They only come from human waste and human sewage. And in fact, although the cattle might have been blamed in Milwaukee when they did the genetic testing of the cryptosporidium they found that it actually was the type that came from human sewage.

And so I think that when we look at wastewater in a community, we can find these different pathogens there, we find them in high

concentrations. And they're fairly young. They've just been excreted, they've just come out of another infected person, and they're in the water. So as we get closer and closer to urban and high density populations, we find more of these types of microbial contaminants. So that means that the risk goes up if we are being exposed to those waters without adequate treatment.

I certainly, Dr. Ehlers, support what you've said about the public and trying to make priorities when there is a very costly problem in front of them and trying to decide how they want to spend their dollar. I think knowledge and information is important to the decision that the community is going to make.

So if these facilities are blending or undertaking these other options, perhaps more water quality data and more information could help communities decide how they want to spend their dollars. If the infrastructure is at a D, maybe we are going to have to invest in infrastructure anyway, and perhaps there are ways we can kill two birds with one stone if we look broadly at the problem.

Mr. EHLERS. In your testimony, you talk about some of the organisms that are in there. it seems, looking at your testimony, that a surprising number survive the treatment process. If blending were used in a fashion that didn't change the number or by very much, would blending be acceptable?

Ms. ROSE. Well, it does change the number. But there is a wide variation. I think as was pointed out in the testimony by my colleagues up here, some wastewater plants don't even have primary. Some don't do a very good job at secondary. So when you're blending, you might get different numbers.

But if you look generally, primary contains higher concentrations. So when you mix it with secondary, you're adding more organisms and you're adding also more solids that impacts the disinfection process. You're going to try to kill the organisms after blending.

And you can easily kill the e-coli and fecal coloforms. But the studies have shown that it's the viruses and these parasites that are more difficult to kill and are affected by increased particles to the effluent. So the approach I took is just one approach. I think it could be used in a whole variety of different facilities that may have, at different times, different blending scenarios that they might want to use. I think it could inform management on how they might want to go about blending different streams under different flow conditions at different times in terms of the risk.

Mr. EHLERS. You didn't discuss, at least I didn't see anything in here about tertiary treatment. What does that consist of? Does that really take care of the rest of the organisms?

Ms. ROSE. Well, in the reclaimed water arena, in Florida and in the West, where they take wastewater and they reclaim it and reuse it, tertiary treatment generally refers to a filtration after secondary. So what they do is they use a filter, like a sand filter, that's similarly used in drinking water. It therefore reduces the pathogens even more.

I've seen some of the newer facilities produce effluent in which you cannot detect any of these pathogens in their final effluent. It also makes the disinfection process very effective. So it undergoes

primary, secondary, then filtration, then disinfection. So it takes even more particles out.

Some tertiary treatment refers to nutrient removal as well, so there are facilities that, after secondary, they take, the ammonia goes to nitrate, then they take the nitrate out of the water. Tampa Bay was able to get money because they discharge to the bay, and Hillsborough County and the city of Tampa, to take out the nitrogen before they discharge. That was also advanced, considered tertiary treatment. So there are different forms.

Mr. EHLERS. One last question. You mentioned a moment ago that in some cases, there is only primary treatment, sometimes not even that. In other cases, partial secondary treatment. Are you referring to that occurring as a result of blending, or were you saying there are treatment plants in the U.S that are treating sewage and still only doing primary?

Ms. ROSE. Yes, what I mentioned was, there are facilities that skip primary, they go right to secondary, they don't even have primary treatment. But also there are facilities that have a waiver from the Clean Water Act and they discharge primary. Hawaii was one of those, and in fact, there was an issue with whether the outfall was impacting the beaches. They decided to go to what's called an enhanced primary. It's one technique in which you can get primary to better treat and remove organisms, and then you can better disinfect. So Honolulu and Mamala Bay is one example where they had a waiver.

Mr. EHLERS. But this is without blending? This is actually wastewater treatment?

Ms. ROSE. This is actually a wastewater treatment plant that achieved primary treatment and then discharged through the ocean outfall and used a diffuser to dilute the wastewater in the oceans.

Mr. EHLERS. I didn't realize we had any plants left like that in the United States.

Ms. ROSE. There are a few.

Mr. EHLERS. We should not have any. Thank you. I yield back.

Mr. BOUSTANY. [Presiding] Thank you, Mr. Ehlers.

The Chair now recognizes Mrs. Schwartz.

Mrs. SCHWARTZ. Thank you, Mr. Chairman.

Thank you for all of your testimony. Just a couple questions, if I may. One thing that wasn't mentioned, as a point of information, I guess, I understand there are now waivers for extreme conditions. So we're not asking anyone to build or rebuild a water treatment or sewage treatment plant for any circumstance. We do understand there are hurricanes, I'm not sure what wet weather is, but I do understand there are extreme conditions, and it would be, from a cost-benefit analysis, not sensible to prepare for these rare occurrences.

So I think what—you're all nodding, so this is one we all agree on. Good. So what we're really looking at is, it seems to me, what is really the goal here. Is the goal to say, look, we've made a great deal of progress, but it's expensive and we don't have the money so let's do the best we can? Or is the goal to really do much better and continue the progress that we have made in cleaning up the water?

Certainly there are a couple of you who referred to the fact that you have some connection to Pennsylvania and that's interesting to me. Certainly our Department of Environmental Resources, through the Deputy Secretary for Water Management, has made it very clear that they're not pleased about this policy and the change in this policy from the EPA. So if any of you have any statement you want to provide to me separately that implies that that's not correct, I would be interested in hearing that.

What I am hearing certainly from my constituents is that they believe that the goal has to be clean water. That's been the goal for 30 years. The issue is, how are we going to get there, how does that make sense. You know as well as I do the President's 2006 budget actually reduced the amount of money available to the State revolving fund that was just talked about by my colleague. So that's not helping States and municipalities move in the direction of improving the water and sewer treatment facilities and the infrastructure, which is aging and does need improvement.

So that to me is not moving in the right direction, if our goal is to increase the clean water available to Americans and I believe it has to be.

One of the things I was interested in is that, it seems that what we are talking about, the proposal is should we have more blending or not. That seems to me to leave off a whole other list of what we might be able to do. No one really has mentioned that. Some of my constituents say, why all of a sudden is this such a problem. I believe the problem is that, well, we have standards we want to meet, we have an aging infrastructure.

But the other is, all the development, much of which we're very proud of, that in fact has increased water flow. Part of my district has seen flooding that never has before. They don't know why that creek is overflowing, forgetting that they just put in a new supermarket and a whole new pavement and a lot more of that community is paved over than it ever was before. So the water is not being absorbed. And I'm not the expert, you're the experts, the water is not being absorbed, it's running off and flooding, and in fact has resulted in some new problems that we have to fix.

So one of my questions is, why not put on the table what else we could be doing in addition to helping our local municipalities be able to improve their infrastructure? But why not also put on the table, I understand there are some new technologies unrelated to the infrastructure of water and sewer treatment and unrelated to the regulations actually that would help, for example, create more porous paving for our parking lots. I mean, this is not new age stuff here, this is something that, in my district, I have a wonderful arboretum, their parking lot has porous paving. They don't have a runoff problem.

Now, you're going to tell me that's expensive too . But somewhere along the line, we have to figure out where we're going to start to encourage some of the other kinds of infrastructure that is being developed and being built, being done in a way that doesn't then cause us to have to make up for the problems that are caused by that.

So I know there are stormwater gardens, and again, I know this sort of sounds like green stuff, but in fact, this is new technology

that we know can make a difference that could in fact potentially save taxpayers billions of dollars over the next few years. So again, I understand the cost benefit analysis, we're talking about $200 billion being awfully expensive over the next 10 or 20 or 30 years for infrastructure, when in fact we talk about spending $200 billion in other ways, it seems like, oh, that's not a big deal.

I think this is all very much a question of what are our priorities. But my question here is, what else could we be doing that none of you have mentioned that in fact could both save municipalities and States money, one, and two, are there other ways we should be helping our municipalities be able to pay for some of that infrastructure, that we're moving in the wrong direction? And three, isn't our goal cleaner water? It seems to me the EPA's regulations are saying, you know, we're throwing up our hands, we can't do it fast enough so we're just going to make it less of a priority.

Those are big questions, but maybe I would start with you, Ms. Stoner, you're nodding. If you would talk about what else we could be doing that no one else has actually mentioned.

Ms. STONER. Yes, I am nodding, because you are all over it. That's exactly what we need to do. We need to look system-wide at the collection system, where is the water coming from into the system. Of course, Pennsylvania has a lot of combined systems. One of the ways to address the problem of having too much water in the system is to offload it to allow it to seep into the ground. So soil and vegetation can treat it as Mother Nature has done, we're now trying to mimic that through the use of rain gardens, through the use of green roofs, just simple things like disconnecting the downspouts from our houses so that they run out into the yard where the water can then sink into the soil, replenish the groundwater supplies and stay out of the sewer system.

That's part of the solution, is to look broadly. Part of the problem that I see with this blending or bypass approach is that it isn't looking broadly, it's looking at the treatment plant. Dilute water is coming into the treatment plant, what do we do now. And it offers a solution that is not as good as actually treating it.

There are other ways to look more broadly at how we can meet multiple goals, having cleaner water, having replenished groundwater supplies, even having a more beautiful environment. Rain gardens are beautiful, as are green roofs. Helping with the heat island effect, reducing air pollution, it's all of the piece. If we look broadly and spend our dollars wisely on those kinds of approaches, which are often called green infrastructure approaches, we can accomplish more for our communities and for our environment.

Mrs. SCHWARTZ. Thank you.

The only other question I would ask is, again, something I mentioned in my opening remarks, but a concern I have is that for some of our States and municipalities in particular that have actually been spending money over the last two decades for sure on infrastructure, and I know that the Philadelphia water department in the last 20 or 30 years actually spent almost $1 billion to improve the water treatment, and is operating now three award-winning pollution control plants. Secondary treatment systems are in place in all three of our water pollution control plants. And again, we've spent about a billion dollars.

If we move in this direction that has been suggested by the regulations from the EPA, is this actually going to reward municipalities that have sat on their hands or discourage the kinds of investments that my colleague on the other side of the aisle was sort of saying his community is wiling to make? And in fact saying to our local communities, don't spend money on improving the infrastructure because in fact, we are not going to really require you to do it and we're going to acknowledge that it's too hard.

So we're actually again creating rewards and incentives to do less rather than rewards and incentives for the communities that have actually taken some real responsibility to think about the future and to start to plan ahead and to start to create what really are more innovative, potentially more cost-effective in the future, kinds of water treatment and sewer plants, recognizing that so many of our communities have to do this. Some have stepped up to the plate to do it.

So how do we switch gears here and actually encourage the communities to do that? Are there financial incentives to do that? There are obviously grant programs. But one of my big concerns is that these changes will actually encourage allowing or blending, but discourage the kind of investment that's not going to go away. These are still aging systems that need to be upgraded, and as I say, many municipalities that are struggling are in fact still making this kind of investment.

So maybe this is a question for Mr. Graham, Mr. Vicory, you might want to say, why not encourage this kind of investment that you have to make in your municipality? Why discourage it?

Mr. GRAHAM. I don't think we are discouraging it. The city of Maryville, which I work for, has very actively supported us in the water and the wastewater treatment to spend the monies that we have been spending to decrease our I&I, significantly decrease it over the course of the last 15 years.

Where our problem has come is with Region IV saying, no blending, any time, anywhere, it's illegal. We took plant down and that region said, you can't do it, period.

Mrs. SCHWARTZ. Even in extreme situations?

Mr. GRAHAM. Even in extreme situations.

Mrs. SCHWARTZ. So is that what's driving this, is that the EPA or the region—you didn't actually say, maybe that's a problem with their interpretation of the current regulations rather than a call for significant changes in those regulations? It's a rather big answer to what might be a regional administrator, I don't know.

Mr. GRAHAM. What we're asking for is a clarification of those rules so that we know what we can and cannot do on the other side.

Mrs. SCHWARTZ. I think that's a very different problem than actually rewriting the regulations.

Mr. GRAHAM. I don't think we're rewriting the regulations, Mrs. Schwartz. I think what we're asking for in our opinion, and what EPA has said in their Freedom of Information, is that blending has been in the tools and that the secondary, the Clean Water Act doesn't prohibit blending. To address whether blending is the primary one, no. Blending in our plant is what we do when the water goes above a certain level. Every time, all of us have at some point

in time had a sink overflow, or a tub overflow, the water's been too much going into the system to be handled under the conditions that it was originally designed for.

Where we look at blending is to try and handle those peak, infrequent flows when the biological side, and biology rules in a biological treatment plant, it can only take so much of a surge or so much starvation between the dosages of sewage that's going on. Whether it's blending or storage, that is the approach that helps you equalize and get the maximum treatment while still meeting those discharge limits that the State and the EPA have set as being protective of the water body that we're discharging to.

Mrs. SCHWARTZ. So then I'll just close with this, it sounds like what you're saying then is that you are supportive of continuing to upgrade the infrastructure and make those kinds of investments and hopefully not calling for blending too often. The question is getting that right, of course.

But maybe that speaks to what the Ranking Member talked about earlier, which is, that's getting the right people in the room to make sure the interpretation is addressing some of your concerns, rather than making changes that could have dramatic effects on other areas or not experiencing the same kind of response from the region. Maybe that's something to look at more locally and see if we can't get kind of, some kind of response from your own delegation. Obviously you have some folks here from Tennessee who might be able to bring the EPA in and see if you can't have some other discussion about that.

But anyway, Mr. Chairman, thank you.

Mr. BOUSTANY. Thank you, Mrs. Schwartz.

I have one question while I have the Chair that I'd like to ask. Mr. Graham, you mentioned in your testimony concerns about misinformation. I'm someone who has a health care background and understands the importance of Koch's postulates when dealing with microorganisms and so forth.

It's my understanding that in some communities that have practiced blending, there have been communities that have practiced blending over the past 30 years, in this time frame, have there been any reports of outbreaks of pathogens, and a real good study done to show that it was related to the facility that was in question? Ms. Rose, would you like to handle that? Dr. Rose, I'm sorry.

Ms. ROSE. Specifically looking at blending and tying it back, that is one of the problems. I think more studies do need to investigate this, and investigate both water quality and public health impacts. That is perhaps through better epidemiological and health surveillance. So I definitely support that there's not enough information to actually test Koch's postulates right now.

What we do know is that in 50 years of waterborne disease outbreaks in the United States, they are statistically related to events with high precipitation. And so in high flow, we're getting more outbreaks, waterborne outbreaks, from these types of pathogens, including viruses, giardia and cryptosporidium. So the question becomes, then, during these events, if our 50 years of data, and that's from epidemiological surveillance, shows this relationship, how do we go to the community level and start investigating and investing to make the association.

I do think investment in science and research, I think the work that the Water Environment Research Foundation is embarking on is extremely important. I think we have not invested enough research and science into the wastewater side of the water industry.

Mr. BOUSTANY. Thank you.

Mr. Vicory, same question. What are your thoughts?

Mr. VICORY. Well, there's no information that's come across my desk that indicates there has been what might be termed a defined outbreak as a result of a discharge from a blended facility.

But I have to put that in context, I think it's important to do that. When you look at the Ohio River, which is kind of my hometown, Cincinnati, the number of people that literally use that river for swimming purposes and get the kind of direct exposure, you know, it's really, I think, practically speaking, on an nice day, probably a handful of people. A lot of people use the Ohio River for recreation. Many of them are in boats. But the number of people that literally have the jet-skis or are on the water skis are really not that many.

And even if there was somebody who got sick, or two or three people, they could live in totally opposite parts of town, they could live in a different State. So trying to tie visits to a hospital or visits to a doctor to the anecdotal use of the Ohio River, you can hopefully understand how difficult that really is.

But having said that, that when you look at a wet weather situation in the Ohio River and Cincinnati, and the bacterial loading that occurs from the Cincinnati side or the northern Kentucky side, Cincinnati has roughly 250 sewage overflow structures, the northern Kentucky side probably has 70 to 100. When you look at the loading of bacteria in a wet weather event, the amount of bacteria that ends up going into the river from a blended sewage treatment plant effluent that gets disinfection, versus the bacteria in the combination of sewer overflows, there could be 10, 15 sewer overflows, could be 300 overflows, the ratio of bacterial input is, I think, practically speaking, very small if not relatively minuscule, of a blended effluent versus the raw sewage that's being discharged in these overflow points.

So even if you had some information that people were getting sick in the Ohio River and literally tying it to the blended effluent versus the other inputs, I think, would be probably almost impossible to do. But that issue that I speak of, about relative loadings, really gets back, I think, at the heart of the issue that's important for a community when they talk about bacteria in the river. That's ultimately what we're trying to do here, is to achieve water quality, that a community needs to spend its money it's struggling to acquire in a fashion that, as was mentioned earlier, that gets at where can we reduce the risks the most for the money that we spend, how do we do that.

Mr. BOUSTANY. Thank you. I think as we move forward, having some of that scientific data and relating it to outbreaks is going to be very useful. Because the big challenge is going to be looking at cost benefit analysis, because we've got aging infrastructure and major concerns. So I think the lesson here would be to try to come up with some studies.

I guess one other question, quickly, and that is, are there standard methodologies of looking at the effluent right now in blended water? I mean, is there a standard being used to quantify organisms across the board or facilities are using different methodologies? Anybody who might have an answer to that question, I would appreciate it.

Mr. GRAHAM. Each State puts requirements on the discharging facility. It's called the NPDES permit. In our case, we are required to monitor the discharge for the pollutants that have been identified. The Little River, there, for example, is a TMDL on coliform. We monitor for coliform, we monitor for total suspended solids and we monitor for BOD.

If the State has additional rules that says, we need to monitor for additional items, then we would monitor for that. That is part of that NPDES permit, and I think that would be a basis to start from as to what needs to be monitored for, and getting that information in from the utilities can provide a lot of that.

Mr. BOUSTANY. Thank you.

Now the Chair would like to recognize the Chairman of this Subcommittee.

Mr. DUNCAN. Well, thank you, Dr. Boustany. And of course, you're the Vice Chair of this Subcommittee and I do appreciate your participation and taking over for me. I've had two different markups going in two different committees, in addition to this Subcommittee this morning. I usually try to stay for just about every bit of a hearing. I apologize to the witnesses, because I do think this is a very important subject. I'm not going to ask any questions, because I'm supposed to speak at a meeting at noon, and another meeting at 1:00 and another group at 2:00. I don't know how I'm going to do it all.

But I do want to thank you once again for coming. I say this, for whatever reason, the Congress doesn't have very many scientific or technical people in the Congress, very few. Dr. Ehlers is one of the very rare exceptions. So we need, I think, a closer working relationship with those who do have scientific and technical knowledge in many of these fields. You are going to have to explain things to us in a simple way that 98 percent of us can understand these things.

But I think that we've got to rely most heavily on the people who are on the firing line. I have talked to many people over the years such as Mr. Vicory and Mr. Graham, who have worked or are working in our water treatment facilities. And I've never seen a one yet that wants to put out a dirty product or discharge sewage. Some people act like there are people in those facilities who want to harm people, and I just have never found anybody in that situation.

I do think it's unfortunate, we are probably spending more per capita on the water system in Iraq, at least at the Federal level, than we are on the water system here in this country. Thank goodness, the States and the local governments and the ratepayers are doing as much as they are doing.

Now, I told Dr. Ehlers, I agreed with him on the cable TV and cell phone bills. In fact, I wrote the FCC several weeks ago or two or three months ago opposing use of the cell phones on the airplanes. But I put in my last newsletter something about that, then

I said, if young people would conservatively invest what they are paying in their cable TV and cell phone bills each month, they probably could retire early with substantial fortunes.

But having said that, and I do agree with what he said, that people probably should and probably are willing to pay a little bit more on their water bills, because they are getting a real bargain. But having said that, and I don't represent, some people up here think because I'm from east Tennessee, I represent this Appalachian poverty district where we still have outhouses and all that. And that is so totally false. Our economy in east Tennessee is better than probably 90 percent of the places in this country. It's become one of the most popular places to move to.

On the other hand, even where the economy is good, most of the people that all of us represent don't have a lot of excess funds. Your average, typical families out here are having difficulties paying all their bills and so forth. So I don't know that we want to advocate five or ten-fold increases in our water bills, at least doing it very quickly. So we've got to use a little common sense in these situations, we've got to use a little balance and realize that people have so many other things that they have to pay for in addition to all this.

So we need to work together, and I know Dr. Rose has looked into the emerging technologies that are coming about. I don't understand the technology but I have read and been told that it's far improved over what it was 25 or 30 years ago. It seems that it's moving even faster now.

So hopefully a combination of doing a little more at the Federal level, using a little common sense and going to some of the emerging new technology, and just a whole combination of things, we can keep improving this product that we're putting out for the American people. And I look forward to hearing from each of you in the future, and working more closely with you to try to solve what I think is very, very important.

With that, I'll yield back to Dr. Boustany for any closing comments or questions that he has, and I'll run off to my meeting. Thank you very much.

Mr. BOUSTANY. Thank you, Mr. Chairman.

I would just like to close by saying thank you all for coming to testify. We appreciate your patience in answering our questions and we certainly look forward to working with all of you.

With that, we will adjourn the Subcommittee hearing. Thank you.

[Whereupon, at 12:07 p.m., the subcommittee was adjourned.]

STATEMENT OF
THE HONORABLE JERRY F. COSTELLO
SUBCOMMITTEE ON WATER RESOURCES
HEARING ON WASTEWATER BLENDING
WEDNESDAY, APRIL 13, 2005

Thank you, Mr. Chairman, for holding today's hearing on wastewater blending. This is an important issue to examine and clarify the legality of it under the Clean Water Act and implementing possible regulations as well as protecting human health and the environment.

The Clean Water Act has been called one of the most successful environmental statutes ever enacted. During its over 30 year existence, the Act has been responsible for doubling the number of waters that meet water quality standards – although significant work still remains.

At its core, the Clean Water Act is very simple. It prohibits the discharge of pollutants into U.S. waters, unless in compliance with a permit issued by a Federal or State regulatory agency. Accordingly, any unauthorized discharge into U.S. waters, regardless of how large or small, is a violation of the Act.

In November 2003, a draft policy issued by the EPA would allow publicly owned water treatment facilities to combine filtered but untreated human sewage with fully treated wastewater before discharge whenever it rains instead of only during periods of extreme weather. Implementing this policy would effectively lift the current prohibition on bypassing the critical second step in the treatment of wastewater, allowing more bacteria, pathogens, viruses and parasites into our waterways. The proposed guidance is inconsistent with sewage treatment standards required by the Clean Water Act and its implementing regulations. It would undo many of the public health and environmental gains achieved under the Clean Water Act.

In response to public health and environmental concerns, I sent a letter to EPA Acting Administrator Johnson with 134 of my colleagues urging him to reconsider weakening the sewage dumping laws. Further, I am troubled that the EPA has not taken a uniform position on wastewater blending.

I am interested in hearing more about new and innovative technologies being used to deal with wet weather flows. I welcome the witnesses here this morning, and look forward to their testimony.

Testimony of the
Tennessee Municipal League
Tennessee Water Quality Managers Association

April 13, 2005

Presented by
John H. ("Jack") Graham, Jr., P.E.
Assistant Director
Water Quality Control Department
City of Maryville, Tennessee

Before
United States House of Representatives
Committee on Transportation and Infrastructure

Subcommittee on Water Resources and Environment

On

Wastewater Blending

April 13, 2005

Introduction

Good morning Chairman Duncan, Congresswoman Johnson, and Committee members; my name is Jack Graham. I am the Assistant Director of the Water Quality Control Department of the City of Maryville and am an affiliate member of the Tennessee Municipal League (TML). TML represents 347 cities and towns across Tennessee. Resolution of the blending issue has been a top priority and environmental issue for the TML for many years.

On behalf of the TML and the City of Maryville I would like to thank you, Chairman Duncan, and the Committee for holding this important hearing to discuss how and why blending is used at wastewater plants in Tennessee and throughout the country to maximize treatment in peak wet weather and to protect public health. The misinformation surrounding this important wastewater management technique is substantial and I hope that my testimony may improve the Committee's understanding on this issue. I will cover several topics: (1) how this issue started; (2) costs associated with eliminating this essential wet weather flow management option; (3) impacts on our state program due to regulatory confusion; and; (4) the confusion and misinformation caused by some of the activist groups to galvanize support for their anti-blending positions.

How It Started

My wastewater plant, like many others, is designed to blend primary and biologically treated wastewaters to maximize the amount of wet weather flow that can safely be treated prior to disinfection and discharge. Blending protects public health and the environment by increasing wet weather wastewater plant capacity and thereby significantly reducing raw sewage overflows into streams and potentially into homes. Because Clean Water Act permit limits for public health and environmental safety are met even when blending, a blended discharge is fully protective. Blending ensures that under peak wet weather flow conditions, the biological system which is sensitive to hydraulic surges will also be protected. Without blending, the public and the environment will be adversely impacted. For that reason, many wastewater plants in Tennessee that specifically incorporate the blending process as part of their design received federal Clean Water Act grants for construction.

In early 1999, without any public notice, EPA Region IV informed the Tennessee Department of Environment and Conservation (TDEC) that blending violated the Clean Water Act's secondary treatment and bypass regulations. This announcement came some 26 years after the adoption of the secondary treatment rule and 20 years after the adoption of the bypass regulation. Based upon EPA Region IV's position, TDEC changed their permit wording and began issuing permits that prohibited blending. In June of 2000, EPA called a public meeting in Chattanooga to inform municipalities of this position. It was a complete surprise since EPA itself had approved and funded the plants that blend. Appeals of NPDES permits followed as TDEC began to implement EPA Region IV's new edict. We later came to find out that EPA Headquarters did not authorize Region IV to take this position.

Cost Impacts

The cost to eliminate blending at municipal plants in Tennessee is estimated to exceed hundreds of millions of dollars (*see* Appendix A). This is in addition to the monies we are expending for infrastructure improvements to our collection systems. The costs associated with a blending prohibition would not benefit the public, as blending wastewater plants already meet applicable water quality standards. In fact, the effluent quality of my facility when blending is far better than the receiving water quality (attached). As a group, we objected to this change in EPA position and requested that EPA Headquarters address the matter.

Impact of Regulatory Confusion over Blending

Since that time, EPA has stated many times that the bypass and secondary treatment rules don't prohibit blending. EPA even said this in a letter to Senator Frist and the entire Tennessee Congressional Delegation, which I have submitted for the record (attached). Nonetheless, EPA Region IV continues to insist that blending is illegal. Therefore, my ability to plan future improvements to my wastewater facility is at a complete standstill. We want to design a plant expansion that would use blending in some peak weather conditions, but can't get this approved due to the ongoing regulatory confusion over blending. Because of this standstill and the increasing needs of the City, Maryville now blends more often than it did when this matter started. Blending must be resolved so that municipal facilities like mine may continue to operate properly, and be designed in the future to accommodate growth, peak wet weather flows, and new pollution reduction requirements.

Misconceptions and Misinformation

Several misconceptions have been perpetuated regarding blending that have prevented resolution of this issue:

First, allowing blending will not affect the need for cities to invest in their wastewater infrastructure. It does not somehow allow poorly operated systems off the hook. Blending is an operational tool that allows a biological system to function properly under peak flow conditions while minimizing collection system backups. Regardless of whether or not a system blends as a means to safely process peak wet weather flows, collection system maintenance and replacement is needed. For example, Maryville, a City of 23,000, is spending $1.6 million on collection system maintenance improvements and plans on spending about $12 million more for plant improvements to address growth and processing of peak flows. This money is included in the upcoming budgets but clarification of the blending issue is necessary to allow plant design and construction to proceed. We are not unusual in this regard.

Second, many Congressional offices were informed by activist groups that blending presents a public health threat, *even where permit limits are met.* Putting aside that such claims are a basic attack on the very structure of the Clean Water Act, the statements are

false. The "Rose" report distributed by NRDC, was based upon a mischaracterization of the Washington, Pennsylvania wastewater plant operations. I personally know the manager of that system – Ray Dami. No one from NRDC ever visited that facility to discuss its operations. Attached to my written testimony is a letter from Mr. Dami confirming that many assumptions regarding plant operations were simply wrong. NRDC's threat analysis assumed that 2 million gallons of raw sewage was being blended at that facility, that the disinfection system provided no pathogen reduction and that swimming occurred under a 1.5-inch rainfall event. As Mr. Dami's correspondence confirmed, none of these assumptions are correct and all lead to a grossly miscalculated risk level. His plant does not blend raw sewage, his disinfection process is designed for peak flows and the blended effluent is cleaner than the water upstream of the plant during rainfall events. From a practical point, Pennsylvania generally recognizes that body contact recreation does not even occur in cold weather and the creek turns into a raging torrent under high rainfall events. The elderly and small children are not swimming in these conditions as assumed by the Rose report.

Third, to stir up opposition to blending, some activist organizations are resorting to scare tactics. For example, one group in Tennessee urged its members to mobilize churches by claiming that baptisms should not occur in rivers because blending, under peak flow conditions, will contaminate waters and such waters are "simply too dangerous to wash away original sin." *See* Appendix B. This and other outrageous claims triggered thousands of letters from the general public against blending.

Finally, if wet weather flows did pose a public health threat, the answer is not to build huge storage tanks or larger biological facilities with special engineering provisions to handle wet weather flows, as has been suggested by NRDC and other activist groups. Biological treatment does not disinfect wastewater. Disinfection is a non-biological process – usually chlorine or ultraviolet light that is applied at the end of the wastewater treatment process. Not only can disinfection be increased to provide "insurance" against adverse impacts in wet weather, there are other more effective and innovative technologies for processing peak wet weather flows -- such as ballasted flocculation. Adopting a one size fits all approach to constantly changing wastewater flows and requiring all flows to go through all processes would waste municipal resources, ensure the construction of inappropriate facilities, and divert monies from more cost effective solutions.

In summary, TML has attempted to resolve this matter in a professional and reasonable manner for over five years. Our state program is at a standstill on this issue and it is preventing municipalities from undertaking necessary plant improvements. The Regional prohibition to blending literally sprang out of nowhere, without any public notice or authorization from EPA Headquarters. Resolution of this issue is long overdue. We urge this committee to ask EPA for a definitive legal interpretation of the rules at issue, as a means for bringing the matter to closure.

Thank you for this opportunity to testify. I would be happy to answer any questions you may have.

Testimony of
John C. Hall, Esq.
Hall and Associates
Washington, DC

On behalf of
Tennessee Municipal League
Pennsylvania Municipal Authorities Association
New Jersey Association of Environmental Authorities
League of Kansas Municipalities
Coalition of Greater Minnesota Cities

Before
Untied States House of Representatives
Committee on Transportation and Infrastructure
Subcommittee on Water Resources and Environment

April 13, 2005

Introduction

Good morning Chairman Duncan, Congresswoman Johnson, and Committee members. My name is John Hall. I am the founder of Hall and Associates, a legal/regulatory firm specializing in Clean Water Act permitting and compliance matters. I hold a Masters in Environmental Engineering and a law degree and have over 25 years experience in addressing Clean Water Act issues. My practice focuses on the representation of municipalities and municipal organizations throughout the country. We have been involved in resolving the blending controversy since its inception in 1998. I am speaking today on behalf of the Tennessee Municipal League, Pennsylvania Municipal Authorities Association, League of Kansas Municipalities, New Jersey Association of Environmental Authorities, and the Coalition of Greater Minnesota Cities.

Particularly relevant to my testimony today is my tenure at EPA from 1980-84 in the Office of Water. During 1983-84, I was a project officer on the amendment of the secondary treatment regulations. As part of that effort, I prepared a detailed history of that regulation and am intimately familiar with the basis and background of that rule, as well as the bypass rule.

Background on Blending

Blending is used when the primary treatment facilities are designed to handle greater wastewater flows than biological treatment units can handle. Constructing larger primary treatment units was a common engineering practice promoted by EPA to process greater flows during wet weather that could otherwise be discharged without treatment. EPA guidance documents from the 1970's and thereafter identify this practice as cost-effective and safe. These facilities are designed to meet permit requirements while blending. These permit requirements ensure public health is protected.

Having spent my entire career addressing CWA permitting issues, I was quite surprised when several regional offices began asserting that blending was a prohibited plant design. It is a bedrock principle of the Clean Water Act that EPA may not dictate plant design or the selection of appropriate processes. In structuring the Clean Water Act, Congress has been quite clear that permittees may select the most cost effective means to ensure compliance with permit requirements. EPA has reiterated this position before courts, in issuing General Counsel Opinions and in publishing the secondary treatment and bypass regulations. Our clients contacted EPA Headquarters in late-1999 to get the matter resolved. EPA Headquarters acknowledged in writing that the regional blending prohibitions were never authorized by the Administrator and that state permitting authorities had considerable flexibility to permit blending as needed to address individual conditions. These acknowledgements, and other documents I reference in my testimony, have been provided to this Subcommittee for the hearing record as Appendix A.

EPA was in the process of issuing a clarification on blending when the advocacy groups began to assert that this was some type of regulatory rollback conjured up by the

Bush Administration and would allow the discharge of raw sewage. These groups published ads in newspapers, disseminated news articles, contacted reporters and filed thousands of objections with EPA making these assertions (Attachments 1 and 2). Dozens of Congressional offices relied on these misplaced assertions in sending a letter to the EPA objecting to EPA draft blending policy. HR 1126 was apparently a product of those representations. Blending, however, does not involve the discharge or dumping of raw or inadequately treated wastewater. The wastewater is treated to achieve all adopted public health protection requirements. I now address the substance of the advocacy group allegations.

Environmental Group Claims Regarding The Legality of Blending are Unsupported

The primary claims of various environmental activists are that (1) the secondary treatment rule mandates the use of biological treatment and (2) the bypass rule mandates that all flows must pass through all treatment processes. My submitted written testimony includes a detailed history of both rules for the Committee's review. The rule preambles, legal challenges to the rules, judicial decisions involving the rules plainly confirm that designing and operating a plant to blend as a means of processing greater peak flows is not and has never been prohibited under federal law. The secondary treatment rule does not even require the use of biological treatment let alone mandate that 100 percent of all flows be forced through biological treatment, particularly as this would degrade effluent quality. As stated by EPA in 1983 "the current secondary treatment regulation itself does not address the type of technology used to achieve secondary treatment requirements." 48 Fed. Reg. 52259 (November 16, 1983).

In promulgating the bypass rule, EPA expressly stated the following:

- The primary purpose of the rule is to ensure that the plant is operated as designed.
- It does not regulate plant design or selection of treatment processes.
- Split flow and seasonal operation of treatment units is not a bypass.
- The rule does not add any costs to plant operation or design not otherwise required by the secondary treatment regulation.

Through detailed record searches under the Freedom of Information Act, EPA confirmed that neither the bypass nor secondary treatment rules expressed any intent to prohibit blending during wet weather events (Attachment 3). EPA restated this position to various Congressional offices. The fact that the bypass rule does not prohibit blending makes perfect sense and explains why EPA federally funded blending facilities in Tennessee, Pennsylvania, New Jersey and elsewhere. If the activity were illegal under federal law, EPA could not have routinely grant-funded facilities with this design. The contrary assertions of various activist groups have no basis, whatsoever, in fact or law.

NRDC's position regarding the bypass rule is particularly perplexing, as they participated in the bypass rule challenges in 1984-87 in the D.C. Circuit. *EPA v. NRDC*, 822 F. 2d 104 (D.C. Cir. 1987). In that case, EPA expressly stated that the bypass rule did not dictate plant design or the selection of any particular treatment process. EPA clarified that the rule was intended to prevent parties from turning off unit processes. Blending doesn't involve turning off any processes—rather, it promotes the maximum use of treatment processes. The bypass rule required, in EPA's words "design operation" – that is once you build a plant you must operate it consistent with the original design. Blending does that. The Court's opinion upheld EPA's description of how the bypass rule works. NRDC's claim that the bypass rule requires all flows to pass through all unit processes at all times is simply incorrect.

Regarding the additional assertion that biological treatment is essential to effectively reduce pathogens, in 1976 EPA specifically amended the secondary treatment rule to eliminate its pathogen reduction requirements as an unnecessary and environmentally detrimental aspect of that rule. EPA confirmed that pathogen reduction is *not* the focus of the secondary treatment rule and that "attainment of [pathogen requirements] necessitates the use of a separate, non-biological unit process specifically designed for disinfection" usually employing chlorine, a highly toxic substance. (40 Fed. Reg. 34522 (August 15, 1975) and 41 Fed. Reg. 30786 (July 26, 1976)). EPA determined that because public health protection needs are very site-specific, considering seasonal and other physical settings, states should address pathogen issues on a local basis through disinfection requirements and water quality standards application. States have done this for the past 30 years. Apparently, the activist groups want to return to a "one size fits all approach" which EPA rejected decades ago as environmentally unsound and wasteful of the nation's resources.

The claim that blending is a public health threat even if permit limits are met, is essentially an attack on existing state water quality standards. As part of EPA's recent BEACH Act regulations EPA rejected this position. 69 Fed. Reg. 67218, 67236 (November 16, 2004). Moreover, if increased pathogen reduction is needed under wet weather conditions, one still would not build more biological treatment or large holding basins. Several less costly, non-biological options exist to accomplish pathogen reduction as EPA has identified in its recent Report to Congress. (Report to Congress on the Impacts and Control of CSOs and SSOs, EPA Doc. 833-R-04-001, August 2004).

Nationwide Cost of Blending Prohibition

Congress and EPA have stated that wet weather flows should be transported to treatment facilities to avoid sewer overflows and basement backups. Treatment plants blend these peak flows to avoid washing out the biological system. It is widely understood that biological systems are ineffective in addressing such a dynamic change in plant conditions. For this reason, the costs associated with a blending prohibition are staggering (Attachment 4) (EPA summary of individual municipal costs and nationwide cost impacts). EPA has estimated that the nationwide costs will likely range between $160 billion - $210 billion. In contrast, the bypass rule adoption specifically stated that it

was not intended to impose any additional costs of treatment. As required by the 1995 Unfunded Mandates Act, such new costs must undergo a thorough review.

Effect on Clean Water Act Structure

Beyond imposing billions in new costs, there are severe ramifications with Congress declaring that blending is a prohibited bypass and requiring 100% of all flow to receive biological treatment, as promoted by HR 1126.

1. *The basic framework of the Act will be altered as uniform plant designs will be imposed and actual public health needs will be ignored.* Pathogen reduction needs are site specific and the Act allows states to consider local conditions in setting disinfection requirements. This saves energy and chemical usage. Under HR 1126, compliance with applicable water quality standards is no longer considered protective of public health and states and Professional Engineers may no longer select the optimum plant design for effectively processing peak wet weather flows.

2. *A blending prohibition promotes use of the least effective biological treatment systems*, such as trickling filters because they are somewhat more tolerant of hydraulic surges. These processes generally produce poorer quality effluent than systems more sensitive to hydraulic surges. *See* CWA § 304(d)(4).

3. *Use of innovative processes will be quashed.* Several new physical/chemical processes are available to address peak flows at a fraction of the cost of biological treatment, and they produce lower pathogen levels than biological treatment. Such processes are being used to effectively treat CSO flows entering shellfish waters. Communities will be forced to disregard new technologies, incur greater costs and the environment forced to accept a poorer effluent quality.

This entire controversy was caused by the unauthorized action of a few EPA regional offices. EPA Headquarters has been stymied in its attempts to rectify this situation by the misinformation campaign initiated by various environmental organizations. Blending has been and continues to be one of the most effective means for processing peak wet weather flows while maintaining a high quality effluent. Claims of public health threat or illegal operation are misplaced and disruptive of state programs that seek to minimize system overflows while ensuring effective plant operations under severe operating conditions.

I thank you for your attention to this important issue and I would be happy to answer any questions.

Appendix A

EPA DOCUMENTATION CONFIRMING THAT BLENDING IS ALLOWABLE UNDER EXISTING REGULATIONS

To Testimony of
John C. Hall, Esq.
Hall and Associates
Washington, DC

On behalf of
Tennessee Municipal League
Pennsylvania Municipal Authorities Association
New Jersey Association of Environmental Authorities
League of Kansas Municipalities
Coalition of Greater Minnesota Cities

Before
Untied States House of Representatives
Committee on Transportation and Infrastructure
Subcommittee on Water Resources and Environment

April 13, 2005

TABLE OF CONTENTS

	Pg.
INTRODUCTION	1
I. SECONDARY TREATMENT REGULATIONS NEVER INTENDED TO PRECLUDE BLENDING	1
A. THE CLEAN WATER ACT DOES NOT DICTATE TECHNOLOGY – THE CHOICE OF HOW TO MEET THE PERMIT LIMITS IS UP TO THE PERMITTEE. BIOLOGICAL TREATMENT OF ALL FLOWS IS NOT REQUIRED	1
B. SECONDARY TREATMENT REGULATION NEVER INTENDED TO RESTRICT BLENDING AS AN ACCEPTABLE METHOD TO PROCESS PEAK FLOWS	4
C. PROCESSING OF PEAK FLOWS IS A RECOGNIZED LIMITATION OF BIOLOGICAL TREATMENT – BLENDING IS A LONG-STANDING ACCEPTED ENGINEERING SOLUTION TO HANDLE PEAK WET WEATHER FLOWS	5
D. SECONDARY TREATMENT STANDARDS NOT INTENDED TO ADDRESS PATHOGENS	8
II. BYPASS RULE DOES NOT RESTRICT BLENDING	10
A. BYPASS REGULATION DOES NOT RESTRICT CHOICE OF PLANT DESIGN OR ADD REQUIREMENTS BEYOND THOSE IMPOSED BY SECONDARY TREATMENT EFFLUENT LIMITATIONS	10
B. EPA HISTORICAL IMPLEMENTATION ADMITS THE BYPASS REGULATION DOES NOT RESTRICT BLENDING	13
III. A BLENDING PROHIBITION WOULD IMPOSE MULTI-BILLION DOLLAR COSTS UPON MUNICIPALITIES	16
A. BYPASS REGULATION DOES NOT IMPOSE ANY ADDITIONAL COSTS UPON THE REGULATED COMMUNITY	16
B. BILLIONS OF DOLLARS IN COSTS ARE ASSOCIATED WITH REGULATING BLENDING UNDER THE BYPASS RULE	18
SUMMARY	19

INTRODUCTION

Blending generally refers to the wet weather flow management practice where primary treatment units are sized to accommodate greater hydraulic flows than the biological units so greater flows can be effectively treated. Peak wet weather flows exceeding the capacity of a treatment unit (*e.g.*, biological unit) are routed around that unit, blended together with the effluent from that unit prior to disinfection and discharge. The blended flows meet applicable permit effluent limitations at the final discharge location. This plant design and operational method has been recommended by the engineering community for decades to cost-effectively design municipal facilities, minimize collection system backups/overflows and ensure that biological systems are protected from process disruption that could be caused by transient peak flow conditions. Through the construction grants program, EPA accepted and promoted this design practice as a means to avoid over-sizing municipal treatment works.

Some environmental advocacy groups are now claiming that existing regulations require the Agency to restrict or preclude blending. From a review of the relevant EPA and court documents pertaining to the secondary treatment and bypass regulations, it is clear that the existing rules do not restrict the practice of blending or seek to impose upon municipalities the huge costs associated with a restriction on blending. There is not a single document identified by EPA in the rulemaking records to the contrary. Moreover, as EPA generally lacks authority under the Clean Water Act to dictate plant design, interpreting existing regulations to restrict or preclude this design practice for processing peak wet weather flows would be clearly contrary to the Act. Blending is a lawful approach to permit compliance that is not restricted by the Act or its implementing regulations.

I. SECONDARY TREATMENT REGULATIONS NEVER INTENDED TO PRECLUDE BLENDING

A. THE CLEAN WATER ACT DOES NOT DICTATE TECHNOLOGY – THE CHOICE OF HOW TO MEET THE PERMIT LIMITS IS UP TO THE PERMITTEE. BIOLOGICAL TREATMENT OF ALL FLOWS IS NOT REQUIRED

Summary: Through numerous EPA materials, including OGC opinions, regulatory preamble, briefs, case law, admissions and correspondence the Agency readily acknowledges that it does not have the authority to dictate to a municipality how it should design its plant to meet secondary treatment requirements. The choice of technology and plant design is up to the discharger and biological treatment of flows is not required. Thus, it is clear that the Agency does not possess the authority to preclude or restrict this design practice as long as applicable effluent limitations are met.

1. **OGC Opinions**: OGC opinions state that EPA is without authority to prescribe specific plant design or technology. A 1975 opinion notes:

> The Congressional history demonstrates that EPA is not to prescribe any technologies [and that] it is not within authority of the Regional Administrator to define particular treatment methods.

Similarly, a 1980 OGC opinion states:

> [T]he effluent limitations in the regulations may be met by the permittee through any lawful means . . . .
>
> * * * *
>
> [The discharger] argues that under the Clean Water Act the choice of an appropriate control technology to meet effluent limitation must be left to the regulated industry. I agree . . . . EPA is precluded from imposing any particular technology on a discharger.[1]

2. **Regulatory Preamble**: The preamble to EPA's secondary treatment regulations similarly states that the choice of technology is left to the permittee. The preamble from the 1980 NPDES regulations notes that:

> Permittees may meet their permit limits by selecting any appropriate treatment equipment or methods . . .

The 1983 preamble states that:

> With the exception of the SS adjustment for WSPs [waste stabilization ponds], the current secondary treatment regulation itself does not address the type of technology used to achieve secondary treatment requirements.[2]

3. **Case Law**: Federal courts have similarly stated that:

> [B]y authorizing the EPA to impose effluent limitations only at the point source, the Congress clearly intended to allow the permittee to choose its own control strategy.

---

[1] *In the Matter of the National Pollutant Discharge Elimination System Permit for Blue Plains Sewage Treatment Plant*, Decision of the General Counsel on Matters of Law Pursuant to 40 C.F.R. §125.36(m), No. 33 (October 21, 1975) at 12-13 and *In re Borden, Inc.*, Decision of the General Counsel on Matters of Law Pursuant to 40 C.F.R. §125.36(m), No. 78 (Feb. 19, 1980), respectively.

[2] 45 Fed. Reg. 33535 (May 19, 1980) and 48 Fed. Reg. 52259 (Nov. 16, 1983), respectively.

and

> The [plaintiffs] correctly notes that Congress sought to avoid requiring specific technologies and instead to encourage experimentation.

and that EPA cannot

> transmogrify its obligation to regulate discharges into a mandate to regulate the plants or facilities themselves. To do so would unjustifiably expand the agency's authority beyond its power perimeters.[3]

4. **EPA Briefs Submitted To Federal Courts**: In *PMAA et. al. v. Whitman et al.*, EPA's Motion to Dismiss dated October 25, 2002 states:

> The 'secondary treatment' standards promulgated by EPA are thus expressed in terms of the limitations that must be achieved, and do not dictate the type or form of technology that may be used to attain the limitations.[4]

Similar statements have been made in subsequent briefs filed in this litigation.

5. **Assistant Administrator for Office of Water Letter to Congressman Gekas:** Among various responses to Congressional inquiry, the Assistant Administrator for EPA's Office of Water confirmed that biological treatment is not required:

> **Do the secondary treatment regulations preclude the use of non-biological facilities that otherwise meet secondary treatment objectives?**
>
> No. The secondary treatment regulations define minimum levels of effluent quality for publicly owned treatment works (POTWs). These requirements are in the form of 7-day and 30-day average effluent concentrations and a 30-day average percent removal requirement. With the exception of alternative requirements for facilities eligible for treatment equivalent to secondary treatment, *the secondary treatment regulations do not specify the type of*

[3] *AISI v. EPA*, 115 F.3d 979, 996 (D.C. Cir. 1997); *Rybachek v. United States EPA*, 904 F.2d 1276, 1298 (9th Cir. 1990) and *NRDC v. EPA*, 859 F.2d 156, 170 (D.C. Cir. 1988), respectively.

[4] EPA Motion to Dismiss Plaintiffs' and Intervenor's Complaints and Memorandum of Points and Authorities in Support Thereof at 6, filed in *Pennsylvania Municipal Authorities Association et. al., v. Whitman et. al.* (D.D.C. Case No. 1-02-01361) (hereinafter *PMAA v. Whitman).*

treatment process that must be used to meet secondary treatment requirements nor do they preclude the use of non-biological facilities. (Emphasis added.)[5]

6. **EPA Admissions in *PMAA v. Whitman***: EPA's January 31, 2003 Admissions state that the secondary treatment regulations were not intended to require all flows to be processed through biological treatment:

> EPA admits that after having made reasonable inquiry, it has not located to date any documents in the record for the secondary treatment rule that show that 100 percent of all flows must be processed through biological treatment.[6]

CONCLUSION: Since 1975, EPA has been clear that the choice of technology for meeting applicable effluent limitations is up to the permittee. Biological treatment is not required to be used by municipal facilities to treat any or all of the incoming wastewater flow.

B. SECONDARY TREATMENT REGULATION NEVER INTENDED TO RESTRICT BLENDING AS AN ACCEPTABLE METHOD TO PROCESS PEAK FLOWS

Summary: A review of the rulemaking record pertaining to the secondary treatment regulation indicates that EPA never intended for such regulation to restrict blending. EPA Freedom of Information ("FOIA") responses and admissions in the federal lawsuit reflect such conclusion.

1. **EPA FOIA Response**: EPA's April 5, 2002 response states:

> There is no information on the record to the secondary treatment regulation that indicates that EPA considered restricting the practice of blending primary treated peak flows with other flow receiving biological treatment as a wet weather flow management option for achieving compliance with secondary treatment effluent limitations. As stated above, in general the secondary treatment regulation itself does not address the type of technology used to achieve secondary treatment requirements.

* * * *

[5] March 2, 2001 letter from Diane Regas, Acting AA, Office of Water, to the Honorable George W. Gekas.

[6] EPA's Responses to Plaintiffs' First Requests for Admissions, ¶ 26 at 17, filed in *PMAA v. Whitman.*

> EPA has no documents showing that 100 percent of all flows must be processed through biological treatment.[7]

2. **EPA Admissions in *PMAA v. Whitman***: EPA's January 31, 2003 Admissions in *PMAA v. Whitman* state that EPA never intended to restrict blending:

> EPA admits that after reasonable inquiry it has not as of this date located any information within the record to the secondary treatment regulation that EPA specifically considered restricting the practices of blending primary treated peak flows with other flows receiving biological treatment as a wet weather flow management option for achieving compliance with secondary treatment regulations.[8]

CONCLUSION: The secondary treatment regulation was never intended to restrict blending. If blending is not restricted by the secondary treatment regulation, the remaining issue is whether blending is restricted by the bypass regulation.

C. PROCESSING OF PEAK FLOWS IS A RECOGNIZED LIMITATION OF BIOLOGICAL TREATMENT - BLENDING IS A LONG-STANDING ACCEPTED ENGINEERING SOLUTION TO HANDLE PEAK WET WEATHER FLOWS

Summary: EPA and other industry standard documents indicate that blending is a long-accepted engineering solution to avoid washing out or over-sizing biological systems. It is a standard engineering practice that has been used in designing POTW for decades.

1. **EPA FOIA Response**: The FOIA response indicates that severe problems can occur if blending is prohibited and a municipality is required to run 100% of peak wet weather flows through its biological system:

> EPA has information from Water Environment Manuals of Practice that provide that:

- [W]here peak flows approach or exceed the design capacity of a treatment plant they can seriously reduce treatment efficiency. [Footnote omitted.]

[7] April 5, 2002 FOIA response of EPA's Office of Wastewater Management to John Hall at 2-3.

[8] EPA's Responses to Plaintiffs' First Requests for Admissions in *PMAA. v. Whitman*, ¶ 30 at 20.

- Activated sludge systems are particularly vulnerable to high volume peak flows. Peak flows that approach or exceed design capacity of an activated sludge unit shift aeration basin solids inventory to the clarifiers and can lead to excessive solids losses (*i.e.,* wash out the biological mass necessary for treatment). [Footnote omitted.]

- [I]f the clarifier experiences excesses loss of solids, treatment efficiencies can be lowered for weeks or months until the biological mass in the aeration basin is reestablished . . . .

- There are a number of design and operational options routinely employed by POTWs to handle peak wet weather flows without an excessive loss of solids from the clarifiers. [Footnote omitted.] These include utilizing the full capacity of the biological treatment unit and providing primary treatment for additional flows where primary treatment capacity exceeds the capacity of the biological unit. Excess flows receiving primary treatment are typically either discharged directly to receiving waters, with or without disinfection, or recombined with the effluent from the biological unit, disinfected and discharged.[9]

2. **EPA FACA Report**: An EPA contractor studying peak excess flow treatment facilities observed the adverse impact of forcing all flows through a biological system:

   POTW efficiency – The highest rate of wastewater flow to treatment plants typically occurs during large wet weather events. High rate flows that exceed the design capacity of a treatment plant can reduce treatment efficiency or make biological treatment facilities inoperable (e.g., wash out the biological mass necessary for treatment).[10]

3. **EPA Branch Chief's Meeting Handout**: The handout summarizes:

   - Biological treatment units lose efficiency and may become unstable as flow rates increase and loadings vary. High flows can wash out biomass.[11]

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[9] April 8, 2002 FOIA response of EPA's Office of Wastewater Management to John Hall at 3-4.

[10] *Performance of Peak Excess Flow Treatment Facilities Serving Sanitary Sewer Collection Systems*, Draft, SAIC (Oct. 14, 1999) at 12.

[11] *NPDES Branch Chiefs' Meeting, Recombination/Blending of Peak Wet Weather Flows at POTWs*, from Jeff Lape, OWM, *circa* March 2001.

4. **EPA Contractor Study**: An EPA contractor concluded that a prohibition on blending would have the effect of transforming treated effluent (meeting permit limits) into untreated overflows:

> Under dry weather flow scenarios, most POTW provide at least biological treatment of all flows that enter the plant. At some treatment facilities, combined sewer overflow occur in the collection system as soon as the biological capacity at the treatment works is exceeded. Under wet weather diversion operation, POTWs provide biological treatment up to the point where the capacity of the biological treatment units are exceeded. Under this scenario, the facility provides primary treatments for all flows, including flows that do not get biological treatment. The flows diverted around the biological units is then combined with flows receiving biological treatment to create the single discharge from the plant. The quality of the blended POTW discharge must still meet permit limitations, so there are practical limits as to how much flow can be diverted around biological units. Overall, diversions around biological units provides for treatment of flows that would otherwise receive no treatment and simply overflow at locations upstream of the POTW. [12]

5. **AMSA Survey**: Fifty percent of AMSA members indicate that they are designed to blend. If blending were prohibited, the percentage of AMSA members indicating the likely outcome(s) is as follows:

> 31% - bypass of raw sewage from headworks
> 29% - surcharging in the collection system
> 14% - basement flooding
> 40% - wash-out of biomass and solids from the treatment facility
> 44% - decreased treatment efficiency and possible exceedance of permit limits. [13]

6. **EPA Contractor Study**: An EPA contractor studying the issue of blending in 2001 stated:

> As of this time, a number of States allow or encourage wet weather diversions for POTWs serving combined sewers

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[12] *Assessment of Costs and Pollutant Loads for Various Management Scenarios at POTWs Serving Combined Sewer Systems*, Tetra Tech Draft, January 2001 (hereinafter *Tetra Tech Report*) at 1.

[13] June 29, 2001 E-mail from Greg Schaner (AMSA) to Kevin Weiss, OWM.

and provides advanced primary treatment to much of its overflows.[14]

7. **Historical Design Manuals**: Technical design manuals reflect that blending is an accepted engineering approach to address peak wet weather flows. Statements include:

> The design of the wastewater treatment system shall include provisions for bypassing around each operation. The bypassing system . . . shall be designed to provide control of the diverted flow such that only that portion of the flow in excess of the hydraulic capacity of the units in service need be bypassed . . . .[15]

8. **EPA Value Engineering Publication**: A 1977 publication indicates that plant designs and construction grants approved by EPA incorporate blending to process peak wet weather flows.[16]

CONCLUSION: Processing peak wet weather flows is a well-documented problem for biological treatment processes that can adversely impact plant performance. Blending is historically a widespread accepted engineering practice that has been encouraged by EPA Regions and States to address peak flows and protect the biological system. A prohibition on blending would result in permittees that are currently treating and in compliance with effluent limitations being forced to bypass raw sewage, wash-out biological systems, or otherwise adversely affect the treatment plant efficiency and/or environment.

D. SECONDARY TREATMENT STANDARDS NOT INTENDED TO ADDRESS PATHOGENS

Summary: Environmental groups are asserting that biological treatment is intended to remove pathogens and that, by allowing municipalities to blend, the pathogen reduction intended by secondary treatment is not being accomplished. In direct contrast to such assertion, EPA specifically determined in 1976 that secondary treatment should not be the basis for regulating pathogens. If regulation is to be needed to address pathogens, then States could impose water quality standards and disinfection, as necessary.

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[14] *Tetra Tech Report* at 9.

[15] *Technical Bulletin – Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability*, USEPA (1974) ¶ 211.5 at 17-18.

[16] Value Engineering, "Case Studies and Formats for Proposals and Reports, A Supplement to the Value Engineering Workbook for Construction Grant Projects," USEPA, (June 1977).

1. **Secondary Treatment Regulatory Preamble**: Prior to 1976, the secondary treatment standards contained a fecal coliform requirement. Biological treatment, however, was recognized as having some incidental removal but that chlorination would be required to meet the fecal standard. In preamble to secondary treatment rulemaking, EPA stated:

> Biological secondary treatment processes, as well as comparable physical/chemical treatment processes, accomplish a certain degree of reduction in the number of pathogenic organisms found in domestic wastewater (as normally indicated by the level of fecal coliform bacteria) through natural die-off and solids removal. These removals, however, are incidental and generally result in fecal coliform bacteria concentrations which are at least an order of magnitude greater than those required for secondary treatment by 40 CFR Part 133 [*i.e.*, geometric mean for thirty days shall not exceed 200 per 100 milliliters].

and

> The fecal coliform bacteria limitations in 40 CFR Part 133 were, in essence, a requirement for continuous disinfection of wastewater effluents from POTW's and fecal coliform bacteria were the measure of the effectiveness *of the disinfection process.*[17] (emphasis supplied).

2. **Secondary Treatment Regulatory Preamble**: In 1976 when EPA removed fecal coliform requirements from the secondary treatment regulations, EPA determined that any disinfection requirements would more appropriately be regulated under State water quality standards.

> In recognition of more recent information, it is now felt that it is environmentally sound to establish disinfection requirements for domestic wastewater discharges in accordance with water quality standards promulgated pursuant to section 302 and 303 of the Act, and associated public health needs.
>
> . . . .
>
> In proposing the deletion of the disinfection requirements from 40 CFR Part 133 and recommending reliance on water quality standards, the EPA made an assessment of the

[17] 40 Fed. Reg. 34522 (August 15, 1975) and 41 Fed. Reg. 30787 (July 26, 1976), respectively.

> State standards relating to wastewater disinfection. It was determined that virtually all of the States and Territories have water quality related regulations pertaining to the disinfection of wastewater and that public health was adequately being maintained.[18]

CONCLUSION: Secondary treatment standards do not address pathogens. If pathogen reduction were necessary, disinfection, not biological treatment, would be the primary means to achieve such objective. Regulation of pathogens would be undertaken in state water quality standards, as appropriate.

II. BYPASS RULE DOES NOT RESTRICT BLENDING

A. BYPASS REGULATION DOES NOT RESTRICT CHOICE OF PLANT DESIGN OR ADD REQUIREMENTS BEYOND THOSE IMPOSED BY SECONDARY TREATMENT EFFLUENT LIMITATIONS

Summary: A review of the rulemaking record pertaining to the bypass regulation, as well as the underlying intent behind the promulgation of the bypass regulation, reflects that this regulation was never intended to restrict blending. Such conclusions are set forth in EPA FOIA responses, regulatory preamble, EPA briefs, case law, and EPA admissions in *PMAA v. Whitman.*

1. **Regulatory Preamble Identifies Intent of Bypass Rule**: A review of the preamble to the bypass regulation reflects that it was intended to (a) justify/provide a defense to certain noncompliance and (b) require operation of the treatment plant as designed. The 1984 preamble states that:

> The bypass provision was intended to accomplish two purposes. First it excused certain unavoidable or justifiable violations of permit effluent limitations, provided the permittee could meet the bypass criteria. Second, it required that permittees operate control equipment at all times, thus obtaining maximum pollutant reductions *consistent with technology-based requirements.* (Emphasis added.)

Moreover, under the bypass rule EPA specifically determined that the permittee can design and operate the plant to dispense with some unit processes under certain conditions:

> Any variation in effluent limits accounted for and recognized in the permit which allows a facility to dispense

[18] 41 Fed. Reg. 30789 (July 26, 1976).

> with some unit processes under certain conditions is not considered a bypass.

The 1988 preamble acknowledged that the bypass provision does not impose requirements beyond that set forth in the underlying technology-based requirement:

> In this case, however, because the bypass provision merely *'piggybacks' existing requirements*, it does not itself impose costs that have not already been taken into account in development of categorical standards. (Emphasis added.)[19]

2. **Bypass Regulatory Preamble Regarding No Limitation on Technological Choices**: The preamble states that the bypass regulation, like the secondary treatment rule, was not intended to limit the permittee's choice of technology:

> The bypass provisions does not dictate how users must comply because it does not dictate what . . . treatment technology the user must install.[20]

3. **EPA Briefs Submitted To Federal Courts**: The EPA brief in the 1980's challenge to the bypass regulation (*i.e., NRDC* case) states that the bypass regulation does not dictate technology and that the intent is for the plant to be operated as designed – recognizing that some units may be designed to run only in specified instances:

> The regulation is intended to ensure that, in general, permittees continue to operate the treatment systems that have been installed to meet effluent limitations.
>
> * * * *
>
> The specific 'technology' that the Agency is accused of dictating is 'full operation of the treatment system.' However the regulation imposes *no limits on the permittee's choice of treatment technology and therefore does not 'dictate technology'* . . . . [T]he regulation requires only that, except for 'essential maintenance,' the equipment that the permittee has selected will be operated . . . .

[19] 49 Fed. Reg. 38036-37 (September 26, 1984) and 53 Fed. Reg. 40609 (Oct. 17, 1988), respectively.

[20] 53 Fed. Reg. 40609 (Oct. 17, 1988).

> . . . . [W]hat the Agency originally intended, and still intends, is to ensure 'proper pollution control through adequate design operation and maintenance of treatment facilities.' 'Design' operation and maintenance are those requirements developed by the designer of whatever treatment facility a permittee uses. The bypass regulation only ensures that facilities follow those requirements. *It imposes no specific design and no additional burdens on a permittee.* If the facility is required to use scrubbers two times a day, the bypass regulation does not require the facility to run scrubbers twenty-four hours per day. (Underlining in original. Emphasis added in italics.) [21]

4. **Case Law**: The U.S. Court of Appeals upheld EPA's bypass regulation interpretation presented in its brief, indicating that it only requires operation of the treatment system as designed:

   > The bypass regulation does not, in fact, dictate that a specific treatment technology be employed; instead, the regulation requires that a system be *operated as designed* (Emphasis added)

   and "bypassing" is defined as shutting off a treatment process and "coasting" when the facility is in compliance.[22]

5. **EPA FOIA Response on Scope of Bypass Rule**: The April 8, 2002 FOIA response states:

   > EPA has no documents from the promulgation of the bypass provisions that indicate that the bypass rule was intended to preclude the use of blending as a wet weather flow management option. [23]

6. **Assistant Administrator for Office of Water Letter to Senator Frist**: In response to Senator Frist's inquiry, the EPA response provides:

   > **Has EPA ever completed any regulatory analysis regarding the cost impact and environmental benefits of a blending prohibition?** (Bold in original.)

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[21] EPA brief submitted in *NRDC v. EPA*, 822 F.2d 104 (D.C. Cir. 1987) at 182, 189-190.

[22] *NRDC v. EPA*, 822 F.2d 104, 123 (D.C. Cir. 1987).

[23] April 8, 2002 FOIA response of EPA's Office of Wastewater Management to John Hall at 1.

> . . . EPA did not conduct a formal analysis of the national costs or environmental impacts of alternative regulatory frameworks for addressing peak wet weather flows at POTWs when conducting the regulatory analyses that were applicable at the time when EPA promulgated the bypass regulation.[24]

7. **EPA Admissions in *PMAA v. Whitman***: EPA's January 31, 2003 Admissions in *PMAA v. Whitman* state:

> EPA admits that it has not issued a Federal Register notice specifically stating that blending is prohibited at POTWs.[25]

CONCLUSION: The bypass regulation was never intended to restrict blending as a design practice to process peak wet weather flows. It merely requires the permittee to operate its plant as designed and fully utilize its treatment process rather than turning off the unit and coasting. As the bypass rule admittedly imposes "no additional burdens," beyond categorical requirements, it is clearly improper to interpret the rule to restrict blending.

B. EPA HISTORICAL IMPLEMENTATION ADMITS THE BYPASS REGULATION DOES NOT RESTRICT BLENDING

Summary: As a generally accepted engineering practice, blending has historically been grant funded by EPA and included in NPDES permits. Moreover, EPA has historically interpreted the bypass regulation as not precluding blending.

1. **Construction Grants Program Authorized Blending**: EPA statements regarding grants include its 2002 FOIA response:

> EPA allowed the use of federal funds under the Construction Grants Program to build facilities that were designed to blend effluent from primary treatment processes with effluent from biological treatment processes during peak wet weather events . . . .[26]

2. **Permits Authorized Blending**: EPA documents regarding permitting of blending include:

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[24] March 7, 2001 letter from Diane Regas, Acting AA for Water, to Senator Frist at 4.

[25] EPA's Response to Plaintiffs' First Requests for Admissions in *PMAA. v. Whitman*, ¶ 14 at 9.

[26] April 5, 2002 FOIA response of EPA's Office of Wastewater Management to John Hall.

a. **EPA Branch Chief's Meeting Handout**: The handout states:

> - Some NPDES authorities have allowed this design and operation. In some cases, permit compliance is based on flows after blending. Of these, some have addressed issue in permits and some have not.[27]

b. **EPA Region I Approval of Blending**: EPA Region I guidance provided to States and the regulated community provides:

> EPA has determined that if a POTW discharges combined primary/secondary effluent which will achieve the numerical limitations contained [in] the community's NPDES permit, the community is not required to obtain a CSO related bypass authorization.[28]

c. **EPA Region II/Approved NPDES States Approval of Blending**: A letter from EPA Region II states:

> Regarding the topic of blending effluent, the State of New York has authorized by permit some public-owned treatment works to blend peak wet weather flows with treated effluent before discharge. The State of New York is the authorized permitting authority . . . .[29]

d. **EPA Region V/Approved NPDES States Approval of Blending**: An e-mail from Ohio EPA indicates that many Ohio municipalities have been approved to blend based upon EPA's historical interpretation:

> This interpretation [*i.e.*, prohibiting blending by EPA enforcement] was a complete surprise to us (at least me). I was aware of *many wwtps* that split flows with one part receiving up to tertiary treatment and another part receiving less than full secondary, with blending to meet secondary. (Emphasis added.)[30]

3. **EPA Draft CSO Policy Confirmed Blending Not a Bypass**: EPA specifically stated in the draft 1992 CSO policy, which was public noticed in

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[27] *NPDES Branch Chiefs' Meeting, Recombination/Blending of Peak Wet Weather Flows at POTWs*, from Jeff Lape, OWM, *circa* March 2001.

[28] Draft CSO Related Bypass Application Guidance at 1-1.

[29] December 20, 2001 letter from Walter Andrews, EPA Region II, to John Hall.

[30] May 29, 2001 E-mail from Bruce Goff, Ohio EPA, to Peter Swenson, EPA Reg. V.

the Federal Register and signed by the Assistant Administrators for EPA's water and enforcement offices, that:

> Under EPA regulations, the intentional diversion of waste streams from any portion of a treatment facility, including secondary treatment, is a bypass. *For a POTW a bypass does not refer to flow or portions of flows that are diverted from portions of the treatment system but that meet all effluent limits for the treatment plant upon recombining with non-diverted flows prior to discharge.* (Emphasis added.)[31]

The final CSO policy is silent regarding blending. It did, however, state that there are no significant changes from the draft 1992 policy.[32] Furthermore, an EPA FOIA response confirms that no negative comments were received on the above-cited blending statement in the draft CSO policy and that the language was not removed to impose a prohibition on blending.[33]

4. **EPA 1997 OWM Letter**: EPA's Office of Wastewater Management ("OWM") stated:

> [T]he National Pollutant Discharge Elimination System (NPDES) regulations provide sufficient flexibility for permit writers to account for the designed-in intentional diversion of wastewater around a treatment unit without triggering bypass in special or unique situations when writing permits.[34]

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[31] *Draft Combined Sewer Overflow Control Policy*, USEPA (Dec. 18, 1992) at 24; Notice of Availability of EPA's draft guidance document signed by LaJuana Wilcher (Assistant Administrator for Water) and Herbert H. Tate, Jr. (Assistant Administrator for Enforcement) entitled "Combined Sewer Overflow Control Policy," 58 Fed. Reg. 4994 (January 19, 1993).

[32] The final CSO policy states:

> The public comments were largely supportive of the draft Policy. EPA received broad endorsement of and support for the key principles and provisions from most commenters. Thus, this final Policy does not include significant changes to the major provisions of the draft Policy, but rather, it includes clarification and better explanation of the elements of the Policy to address several of the questions that were raised in the comments.

59 Fed. Reg. 18688 (April 19, 1994).

[33] January 2, 2002 Freedom of Information Act response from EPA to Hall & Associates.

[34] March 12, 1997 letter from James Pendergast, EPA Headquarters Office of Water, Permits Division, to Lial Tischler.

5. **EPA 1999 OWM Letter to EPA Region V**: EPA OWM concurs with a Region V draft letter confirming that blending is not an illegal bypass. The Region V letter with which OWM agreed provides:

> If the permit writer includes in the permit an explicit recognition of this differential treatment [i.e., blending], and if the treatment facility is operated in accordance with the treatment facility's design for providing treatment during peak flow conditions, any rerouting/recombination that occurs during such conditions would not constitute a diversion from the "treatment facility," and so would not constitute a "bypass."[35]

6. **Assistant Administrator for the Office of Water Letter to Senator Frist**: In response to Senator Frist's inquiry, the EPA response provides:

> **Has EPA ever completed any regulatory analysis regarding the cost impact and environmental benefits of a blending prohibition?** (Bold in original.)
>
> EPA believes that NPDES permitting authorities have considerable flexibility through the NPDES permitting process to account for different peak flow scenarios that are consistent with generally accepted good engineering practices and criteria for long-term design. As such, NPDES permitting can account for blending. As described above, blending may be approved.[36]

CONCLUSION: Blending is a practice which historically has been grant funded by EPA, included in NPDES permits, and allowed under applicable regulations. Responses from OWM regarding specific projects, as well as EPA's contemporaneous interpretation set forth in the draft CSO policy, uniformly reflect that blending is not restricted by the bypass regulation.

III. A BLENDING PROHIBITION WOULD IMPOSE MULTI-BILLION DOLLAR COSTS UPON MUNICIPALITIES

A. BYPASS REGULATION DOES NOT IMPOSE ANY ADDITIONAL COSTS UPON THE REGULATED COMMUNITY

[35] Draft letter from Tinka Hyde, Acting Director, Water Division, Indiana Department of Environmental Management, attached to April 15, 1999 Memorandum from Tinka Hyde to Michael B. Cook, Director, EPA Office of Wastewater Management, entitled "Request for Concurrence with Recombination Letter" (WN-16J).

[36] March 7, 2001 Letter from Diane Regas, EPA Acting Assistant Administrator for Water, to Senator Frist at 4.

Summary: EPA has consistently stated that the bypass rule is intended to impose no additional costs upon the regulated community. These statements have been made by EPA in the preamble accompanying promulgation of the bypass regulation, EPA briefs, EPA FOIA response after reviewing the bypass rulemaking record, and other documents.

1. **Bypass Rule Not Intended to Impose Additional Costs**: EPA's preamble to the bypass regulation states:

   > In this case, however, because the bypass provision merely 'piggybacks' existing requirements, it does not itself impose costs that have not already been taken into account in development of categorical standards.[37]

2. **EPA Briefs Submitted To Federal Courts**: In its *circa* 1986 brief to the D.C. Court of Appeals responding to a challenge to the bypass regulation, EPA stated:

   > [I]n promulgation an effluent guideline limitations or establishing a BPJ limit, the Agency considers fully the costs of operating treatment systems to the extent assumed by the bypass regulation. *Thus, the bypass regulation itself imposes no costs.* [38] [Emphasis added.]

3. **EPA FOIA Response**: EPA's April 5, 2002 FOIA response states:

   > EPA has no documents indicating the cost impacts of prohibiting the use of blending at POTWs to manage peak wet weather flows that were used in the development of the secondary treatment regulations or the bypass regulations.[39]

4. **EPA Admissions in Pending Lawsuit**: EPA's January 31, 2003 Admissions in *PMAA v. Whitman* state that EPA never considered the costs in promulgating the regulations:

   > EPA admits that after reasonable inquiry that it has not as of this date located any documents from the administrative record related to the secondary treatment regulations and

[37] 53 Fed. Reg. 40609 (Oct. 17, 1988).

[38] EPA brief submitted in *NRDC v. EPA*, 822 F.2d 104 (D.C. Cir. 1982) at 194-95.

[39] April 5, 2002 FOIA response of EPA's Office of Wastewater Management to John Hall at 3.

> the bypass regulations in which EPA formally analyzed the national cost of prohibiting the use of blending . . . .
>
> . . . .
>
> EPA admits that after reasonable inquiry it has not as of this date located any documents in the record for the secondary treatment rule that provide an estimate of costs associated with ensuring that biological treatment is sized to process all peak wet weather flows under all conditions.[40]

CONCLUSION: The bypass rule is not intended to impose any costs upon the regulated community beyond that already imposed by the imposition of secondary treatment standards.

B. BILLIONS OF DOLLARS IN COSTS ARE ASSOCIATED WITH REGULATING BLENDING UNDER THE BYPASS RULE

Summary: Notwithstanding the fact that the bypass rule was not intended to impose *any* additional costs upon the regulated community, restricting blending under the bypass rule would have the effect of imposing hundred of billions of dollars of costs upon municipalities. EPA has undertaken various cost estimates associated with the impact of now subjecting blending to the bypass prohibition.

1. **EPA Cost Estimates of Blending Restriction**: A 2002 cost estimate by an EPA contractor estimates a prohibition on blending would range for CSOs from $9.1 billion (if POTWs increased wet weather storage) to $79.2 billion (if POTWs were to double secondary treatment capacity) and for SSOs range from $13.4 billion (if POTWs increased wet weather storage) to $52.8 billion (if POTWs were to double secondary treatment capacity). [41]

2. **OECA Cost Estimates**: A February 2003 evaluation of costs by the EPA Office of Water and Office of Enforcement and Compliance Assurance ("OECA") to eliminate bypasses by construction, rather than allowing blending, for four municipal cases indicates an average cost of approximately $69 million per municipality.[42]

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[40] EPA's Responses to Plaintiffs' First Requests for Admissions in *PMAA. v. Whitman*, ¶¶ 25, 29 at 16, 19.

[41] *Draft National Cost Impact Analyses*, prepared by LimnoTech (EPA contractor), Feb. 3, 2002.

[42] *Incremental Costs for Bypass Elimination Based on Case Settlements and Judgements* (Draft 02/07/03). The OECA cost estimates indicate for four municipalities a total cost of $275 million.

3. **EPA $200 Billion Dollar Cost-Estimate**: More recent cost-estimates from EPA Headquarters estimated that a national prohibition on blending would likely cost municipalities at least $167 billion - $213 billion dollars.[43]

CONCLUSION: Well over a hundred billion dollars of costs would be imposed by subjecting blending to the bypass rule although it is clear from the rulemaking record and EPA historical implementation and practice that such result was never intended.

SUMMARY

A review of EPA correspondence, OGC opinions, regulatory preamble, EPA briefs, case law, admissions, and historical practice, clearly establish that:

- The Clean Water Act does not provide EPA authority to dictate how a plant may be designed to achieve effluent limits.
- The choice of technology for meeting secondary treatment standards is up to the permittee. Biological treatment of all flows is not required.
- In promulgating the secondary treatment rule EPA never intended to restrict blending.
- The secondary treatment standards do not address pathogens. If pathogen reduction were necessary it would be required by state water quality standards. Disinfection, not incidental biological treatment, would be the means to reduce pathogens.
- The bypass regulation does not impose any additional costs or burdens beyond that established by the secondary treatment rule and did not itself restrict blending.
- The bypass rule does not restrict how a plant may be designed to achieve permit limits but is intended to require the permittee to operate its plant as designed. Blending provides for full utilization of the plant process abilities under difficult operating conditions.
- A restriction on blending would have detrimental impacts on biological systems resulting in increased overflows and process upsets.
- Blending is a long-accepted engineering solution for cost-effectively treating peak wet weather flows. It has been grant funded, included in NPDES permits, and otherwise approved by EPA Regions and approved NPDES States.

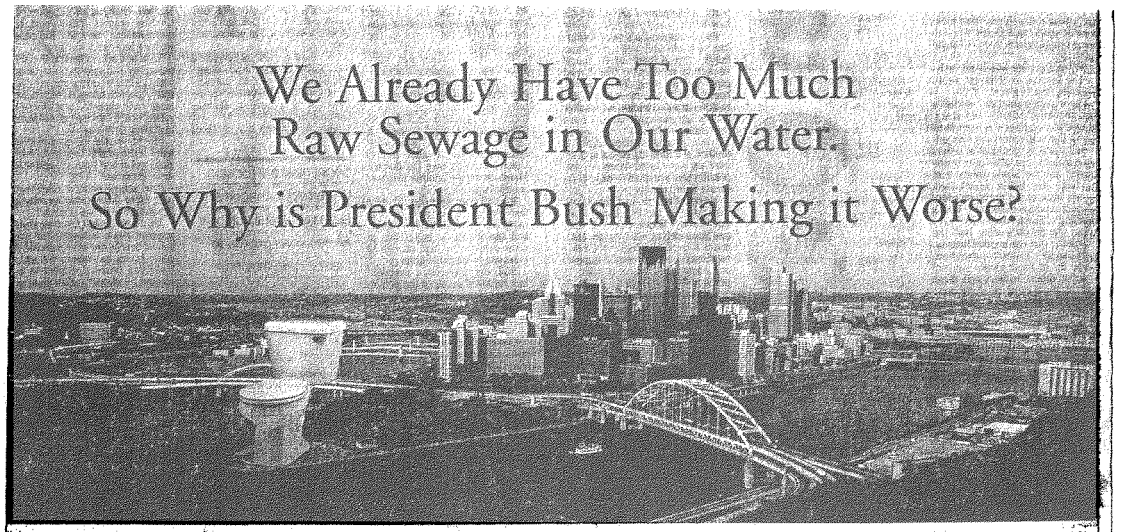
[43] *Estimate of Additional Costs for POTWs if Blending is not Allowed*, EPA OWM, *circa* Feb. 2003.

- Hundreds of billions of dollars in costs would be imposed on municipal entities by applying the bypass prohibition to blending.

- Interpreting existing rules to restrict or preclude blending would be a major change in rule interpretation requiring formal compliance with APA/Unfunded Mandates Act provisions and, in any event, plainly exceed the authority granted by Congress to EPA under the Clean Water Act.

ATTACHMENT 1

We Already Have Too Much Raw Sewage in Our Water. So Why is President Bush Making it Worse?



We all want clean, healthy water. But every time it rains in Allegheny County our old sewage system is overwhelmed and raw sewage runs into Allegheny County's creeks and rivers. And this is the worst year ever for sewage overflows in the county. Between May 15 and September 30 of this year, we had 109 days when untreated sewage was dumped in our water. Some tests of county waters found levels of fecal coliform 50 times the legal limit, and that poses a serious health risk. Public health experts estimate that there are 7.1 million cases of mild to moderate and 560,000 cases of moderate to severe infectious waterborne disease in the United States each year.

But instead of helping us solve this health-threatening problem, the Bush administration is making it worse by cutting funding for sewage treatment plants and by allowing "the blending" of raw sewage with treated sewage instead of treating all of it before it is dumped in our rivers.

There is a better way. President Bush: Help us keep raw sewage out of the Three Rivers. Keep the bacteria, viruses and parasites out of our water and keep our kids and communities from risk.

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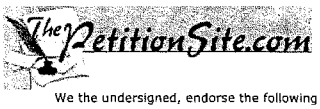
ATTACHMENT 2



December 17, 2003

We the undersigned, endorse the following petition:

Tell EPA To Keep Sewage Out Of Our Waters

Target: The Honorable Michael Leavitt U.S. Environmental Protection Agency
Sponsor: SaveOurEnvironment .org

Sewage does not belong in our water!

- SIGNATURES: **15,964**
- GOAL: 10,000
- DEADLINE: Ongoing ...

Millions of Americans get sick every year from contact with inadequately treated sewage that ends up in water that we drink or swim in. Pathogens in sewage-contaminated waters can cause gastrointestinal and respiratory illnesses, dysentery and hepatitis. Children, the elderly and those with weakened immune systems are most likely to get sick.

The Clean Water Act requires that raw sewage be treated to remove dangerous viruses and parasites before it is discharged into streams, lakes and drinking water sources. But on November 3rd, the Environmental Protection Agency proposed a new policy that would allow sewage to be discharged during rainstorms without this treatment. The proposal would increase the amount of bacteria, viruses and parasites discharged into recreational waters and drinking water supplies, where they would make more people sick.

Take Action! By signing this petition, official comments will be sent to the EPA on your behalf. Thank you!
..... See full petition below

Sign This Petition!

STEP 1. Enter your name:

☐ Display in public list as "Anonymous"

Continue..

MOST RECENT 25 of 15,964 SIGNATURES

E-mail this petition to your friends.

Number	Date	Name	City	State	Tell the Administrator why we should not alter the Clean Water Act:
15,964	11:54 am PST, Dec 17	Kat Lindgren	Longmont	CO	
15,963	11:46 am PST, Dec 17	John R. Peacher	Martinsburg	WV	We own property in Elizabeth City, North Carolina. There have been, and continue to be raw sewage leaks into the Pasquotank River there. The sewage goes directly into the River, then the Sound, then the Atlantic Ocean. We have contacted your offices before on this matter and you have refered us to a North Carolina Agency, which does nothing. Please clean up this environmental hazard with haste!
15,962	11:18 am PST, Dec 17	Anonymous	Flint	MI	
15,961	11:00 am PST, Dec 17	Kathy	Colonial	VA	

		Hardison	Beach		
15,960	10:41 am PST, Dec 17	April Graham	pendleton	OR	LIFE!
15,959	10:26 am PST, Dec 17	Kristi Suggs	Lancaster	SC	
15,958	9:44 am PST, Dec 17	silvana jasaitis	timmins	--	Plumbing invented by Romans and we have been suffering ever since.. Rudyard Kipling recounts the sweet aroma of the dung heaps. How barabric to put waste products into our water. Should we not be using our waste products for something else. Even the bible refers to this vast evil expelled from our bodies. Go Figure. They knew back then ehat would be our our downfall thousands of years later.
15,957	9:41 am PST, Dec 17	Bruce Coleman	Buffalo	NY	We must raise the importance of protecting our precious resources to "critical". It IS a matter of security.
15,956	9:37 am PST, Dec 17	Kassandra Tribble	Fullerton	CA	
15,955	9:16 am PST, Dec 17	paul volero	Tampa	FL	
15,954	7:38 am PST, Dec 17	Lynn Whitney	Potomac	MD	
15,953	7:21 am PST, Dec 17	julie hatch	redcar	--	
15,952	6:44 am PST, Dec 17	James Orr	Fairfield	TX	You gotta be kidding
15,951	6:06 am PST, Dec 17	Marie Alabiso	Hyde Park	MA	This is a no brainer. Sewage does not belong in our waters.
15,950	4:58 am PST, Dec 17	Brenda Hofreiter	Winter Park,	FL	Clean water is essential to the health of this planet and all its inhabitants.
15,949	1:51 am PST, Dec 17	rhonda mcdougal	mesquite	TX	
15,948	1:02 am PST, Dec 17	Devi Welch-Norris	North Vernon	IN	Our water is much more important than bush and his big oil company cronies!
15,947	11:56 pm PST, Dec 16	Ashlee Johnson	Isla Vista	CA	
15,946	11:54 pm PST, Dec 16	Theresa G. Torres	Merrillville	IN	TO THE ADMINISTRATOR...WOULD YOU DRINK WATER WITH SEWAGE?
15,945	11:18 pm PST, Dec 16	Victoria Shannon	Victorville	CA	Stop the anti-environment appointed Administration of Rove/Bush
15,944	7:02 pm PST, Dec 16	jesse philpot	santa ana	CA	
15,943	6:54 pm PST, Dec 16	Anonymous	San Francisco	CA	
15,942	5:36 pm PST, Dec 16	Sheree L. Tribble	Moreno Valley	CA	
15,941	4:57 pm PST, Dec 16	Rachael McCrum	Marietta	GA	
15,940	3:44 pm PST, Dec 16	Charles O. Redditt	Conway	AR	I don't want to drink sewage any more than I want to drink arsenic (remember one of Bush's first environmental proposals?). Bush continues his attack on the environment as demonstrated by his abandonment of Kyoto, his evisceration of the Clean Air act thru converting new source review into a loophole, and stuffing the energy bill full of pork for big oil and coal.

Tell EPA To Keep Sewage Out Of Our Waters

The Honorable Michael Leavitt
U.S. Environmental Protection Agency
1200 Pennsylvania Ave, NW
Washington, D.C. 20460

Subject: Keep inadequately treated sewage out of our waters

Dear Administrator Leavitt:

I urge you to drop the proposed policy that would allow sewage treatment plants to routinely discharge inadequately treated sewage during rain events. The proposed policy would increase the amount of bacteria, viruses and parasites discharged into the nation's recreational waters and drinking water supplies.

The EPA's proposed policy (which it calls "blending") would mix together treated and largely untreated sewage before discharge. Blending is dangerous because it would allow sewage-infested wastewater to be discharged without removing most of the pathogenic organisms and other pollutants. The proposed policy would allow blending even when feasible alternatives exist, such as such as constructing additional capacity or storing sewage until it could be fully treated.

More than half of all waterborne disease outbreaks in the U.S. in the past 50 years were preceded by heavy rainfall. Pathogens in sewage-contaminated waters can cause gastrointestinal and respiratory illnesses, dysentery and hepatitis, conditions that can be life threatening for children, the elderly and those with weakened immune systems.

Discharges of untreated and inadequately treated sewage in [name state or community] cause beach closures, algal blooms, waterborne illness, and other environmental and public health harms. The Clean Water Act requires sewage to receive effective treatment before it is discharged into streams, lakes, and coastal waters.

I urge you to abandon this seriously misguided proposal, and instead protect Americans' health by requiring effective sewage treatment at all times.

Sincerely,

Carbon Copy:
Att'n: Docket # OW-2003-0025 Environmental Protection Agency, Water Docket Email: OW-Docket@epa.gov

To the Top/Sign Petition

E-mail this petition to your friends.

Note: This *Tell EPA To Keep Sewage Out Of Our Waters* petition was submitted by SaveOurEnvironment.org. ThePetitionSite.com is a free service provided to help concerned citizens rally support for issues they believe in. The opinions expressed by this petition do not necessarily reflect the views and opinions of ThePetitionSite.com or Care2.com. There is no express or implied endorsement of this petition nor any newsletter offers (except those from Care2.com) by Care2.com, Inc, ThePetitionSite.com, or our sponsors. If you believe this system is being abused, please send a message with the title and URL of this petition to support@earth.care2.com. If you disagree with the opinions of this petition, speak out in the Care2 discussion boards.

Questions about this petition? Contact the petition sponsor: SaveOurEnvironment.org
Questions about thePetitionSite.com? Visit our FAQ page.

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ATTACHMENT 3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

April 8, 2002 OFFICE OF WATER

John C. Hall
Hall & Associates
Suite 203
1101 15th Street, N.W.
Washington, D.C. 20005-5004

Dear Mr. Hall:

This is a partial response to your October 25, 2001, letter which requested information under the Freedom of Information Act. EPA has assigned this request the number HQ-RIN-00459-02. This partial response addresses question 3 from your letter, in which you requested information pertaining to:

Bypass Regulation

3 Any document developed as part of the bypass rule adoption indicating that the bypass regulation intended to restrict the ability to use blending as a wet weather flow management option at POTWs.

Response

Under the NPDES regulations, bypass is defined as 'any intentional diversion of waste streams from any portion of a treatment facility'. The bypass provision prohibits bypasses except in limited circumstances where the bypass is for essential maintenance and does not cause effluent limitations to be exceeded (see 122.41(m)(4) and (m)(2)). A similar bypass provision has been incorporated into the pretreatment regulations at 40 CFR 403.17.

EPA has no documents from the promulgation of the bypass provisions that indicate that the bypass rule was intended to preclude the use of blending as a wet weather flow management option. However, EPA has indicated that "the bypass regulation is a general requirement which, although it works in conjunction with a categorical [treatment] standards, is not itself an effluent standard . . . the bypass provision merely 'piggybacks' existing requirements, it does not itself impose costs that have not already been taken account in development of categorical standards" (53 FR 40609 (October 17, 1988)) "The bypass regulation is *not* a *de facto* effluent limitation" (*NRDC v EPA* (822 F.2d 104, 123)) [emphasis in opinion]. " The bypass provision does not dictate how users must comply because it does not dictate what [treatment] technology the user must install. . . Instead, the user must operate the treatment system in a manner consistent with appropriate engineering practice."(53 FR 40609 (October 17, 1988)). "The [bypass] regulation

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thus ensures that treatment systems chosen by the permittee are operated as anticipated by the permit writer, that is, as they are designed to be operated and in accordance with the conditions set forth in the permit." NRDC v. EPA 822 F.2d 104, 122 (D.C. Cir.1987).

As noted in my April 5, 2002 partial response to FOIA HQ-RIN-00459-02, there is no information on the record to the secondary treatment regulation that indicates that EPA considered restricting the practice of blending primary treated peak flows with other flows receiving biological treatment as a wet weather flow management option for achieving compliance with secondary effluent limitations. As stated in the April 5 response, in general the secondary treatment regulation itself does not address the type of technology used to achieve secondary treatment requirements. The secondary treatment requirements are in the form of 7-day and 30-day average effluent concentrations and a 30-day average percent removal requirement. With the exception of alternative requirements for facilities eligible for treatment equivalent to secondary treatment, the secondary treatment regulations do not specify the type of treatment process that must be used to meet secondary treatment requirements nor do they preclude the use of non-biological facilities.

EPA does have other information relating to the purpose and scope of the bypass provision. Please let me know if you want to review any of these materials, or would like copies of any of the materials. A partial summary of some of the information follows.

In promulgating the bypass regulation, EPA indicated, "[t]he bypass provision was intended to accomplish two purposes. First, it excused certain unavoidable or justifiable violations of permit effluent limitations, provided the permittee could meet the bypass criteria. Second, it required that permittees operate control equipment at all times, thus obtaining maximum pollutant reductions consistent with technology-based requirements. Without such a provision, discharges could avoid appropriate technology-based control requirements." (49 FR 38036 (Sept. 26, 1984)).

After promulgation, the bypass provision was challenged, and ultimately upheld by the court in NRDC v. U.S. EPA (822 F.2d 104, 122 (D.C. Cir.1987)). The NRDC court found that "the bypass regulation does not, in fact, dictate that a specific treatment technology be employed; instead, the regulation requires that a system be operated as designed and according to the conditions of the NPDES permit." (822 F.2d 104, 123). The NRDC court made a distinction between a regulation that prohibited permittees from "shut[ing] off their treatment facilities and "coast" simply because they were momentarily not in danger of violating effluent limitations" and "dictat[ing] a specific treatment technology be employed". EPA has indicated that the bypass "provision thus requires NPDES permittees to operate their entire treatment facility at all time." (53 FR 40607, October 17, 1988).

The court in U.S v. City of Toledo, Ohio (63 F.Supp.2d 834 (N.D. Ohio 1999)) provided "that one focus of the bypass prohibition is to ensure the constant operation of all *existing* equipment, . . . [and] another focus is to avoid any violations of permit effluent limitations".

[emphasis added]. In the Toledo case, the court used these two focusses of the bypass provision to justify requiring, in addition to the use of existing equipment, the permittee to provide additional capacity that was necessary to avoid violations of permit effluent limitations.

"[T]he National Pollutant Discharge Elimination System (NPDES) regulations provide sufficient flexibility for permit writers to account for the designed-in intentional diversion of wastewater around a treatment unit without triggering bypass in special or unique situations when writing permits." (March 12, 1997 letter from EPA Water Management Division to Lial Tischler)

The preamble to the 1984 bypass regulations provides, "Seasonal effluent limitations which allow the facility to shut down a specific pollution control process during certain periods of the year are not considered to be a bypass. Any variation in effluent limits accounted for and recognized in the permit which *allows a facility to dispense with some unit processes under certain conditions is not considered bypassing*." [emphasis added]

In addition, 40 CFR 122.41(e) provides that the permittee shall at all times properly operate and maintain all facilities and systems of treatment. 40 CFR 122.41(e) requires the operation of backup and auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

EPA also has some limited guidance on the term 'essential maintenance' that appears in the bypass provision. When promulgating the bypass provision, EPA indicated that "[g]enerally, maintenance is that which is necessary to maintain the performance, removal efficiency and effluent quality of the pollution control equipment." (Sept. 26, 1984).

EPA has information from Water Environment Manuals of Practice that provide that:

- where peak flows approach or exceed the design capacity of a treatment plant they can seriously reduce treatment efficiency[1].
- Activated sludge systems are particularly vulnerable to high volume peak flows. Peak flows that approach or exceed design capacity of an activated sludge unit shift aeration basin solids inventory to the clarifiers and can lead to excessive solids losses (i.e., wash out the biological mass necessary for treatment)[2].
- Shifting solids from the aeration basin to the clarifiers lowers treatment rates until after

---

1 *Design of Municipal Wastewater Treatment Plants* Fourth Edition, 1998, Water Environment Federation Manual of Practice 8, ASCE Manual and Report of Engineering Practice No. 76, Volume 2, page 11-5.

2 *Design of Municipal Wastewater Treatment Plants* Fourth Edition, 1998, Water Environment Federation Manual of Practice 8, ASCE Manual and Report of Engineering Practice No. 76, Volume 2, page 11-6.

flows have decreased and the solids inventory are returned to the aeration basin. If the clarifier experiences excessive loss of solids, treatment efficiencies can be lowered for weeks or months until the biological mass in the aeration basin is reestablished. In addition to these hydraulic concerns, wastewater associated with peak flows may have low organic strength, which can also decrease treatment efficiencies.

There are a number of design and operational options routinely employed by POTWs to handle peak wet weather flows without an excessive loss of solids from the clarifiers[3]. These include utilizing the full capacity of the biological treatment unit and providing primary treatment for additional flows where primary treatment capacity exceeds the capacity of the biological treatment unit. Excess flows receiving primary treatment are typically either discharged directly to receiving waters, with or without disinfection, or recombined with the effluent from the biological units, disinfected and discharged.

Please call me at (202) 564-0742 if you have any questions regarding this response.

Sincerely,

Kevin Weiss
Water Permits Division
Office of Wastewater Management

3

See *Design of Municipal Wastewater Treatment Plants* Fourth Edition, 1998, Water Environment Federal Manual of Practice 8, ASCE Manual and Report of Engineering Practice No. 76, Volume 2, page 11-5; *Prevention and Control of Sewer System Overflows* Second Edition, 1999, Water Environment Federation Manual of Practice FD-17.

Utility Information from Blending Comments, March 4, 2004

Communities Providing Cost Information				
Jurisdiction	***Doc. No.***	***Blending now?***	***Cost of eliminating blending***	***Additional cost or technology information***
City of Flint, MI	0440	Yes	"Millions" to add treatment capacity that would be used one or twice per year	Practices "virtual blending" (in-stream blending, in which mixing occurs in the receiving water) as authorized in NPDES permit
Knoxville Utilities Board, TN	0460	Yes	"Tens of millions of dollars" Storage would cost $70 million	Received federal funding for construction of two POTWs using blending Currently in the midst of a five-year, $60 million plan to improve collection system
Wheaton Sanitary District, IL	0485	Yes	$340,000 to connect existing wet weather discharge point to POTW treatment train (to eliminate in-stream blending) "Over $6 million dollars" for storage plus acquisition of 10 acres of land. Facilities of this size would be used once every 10 years.	Practices in-stream blending. Has a seasonal FC limit.
Genesee County Drain Commissioner's Office, MI	0486	Yes	"Millions of dollars at our facility alone"	Blends 1-6 times per year
Miami-Dade Water and Sewer Department, FL	0645	Unclear, would blend if policy finalized	Modifications to existing and planned facilities with no blending would cost $500 million	Department has spent $900 million over the last 10 years to update collection and treatment facilities. Department wants to use physical/chemical treatment before blending.
Washington-East Washington Joint Authority, PA	0652	Yes	Construction of additional facilities would cost $12 million.	NPDES permit has approved blending since 1991. Authority has no NPDES violations during wet weather since 1991. Blending occurs during laess than 1% of operation, amounts to thousands of gallons.
East Bay Municipal Utility District, CA	0675	Yes	$1.5 billion	District and member communities have spent $710 million to reduce I/I and storm water impacts since 1989.
City of Portland Environmental Services, OR	0801	Yes	Full secondary costs are "prohibitive in the short term. Implementing all of the elements of the City's 2040 plan would cost hundreds of millions of dollars in capital costs concurrent with or immediately on the heels of the City's $1 billion CSO abatement program."	City's POTWs were designed to blend.

Metropolitan Wastewater Management Commission, OR	0807	Yes	Costs for addresing wet weather flows through different scenarios through 2025: Full secondary for all flows - $110 million All flows through primary, some peak flow diverted around secondary - $32 million Portion of peak flow through primary/secondary, remaining peak flow through high rate clarification - $23 million Portion of peak flow through primary, remaining peak flow routed from headworks to secondary - $10 million	POTW was designed to blend, but blending is not recognized in NPDES permit. Treatment facility design including blending was approved by State.
Rahway Valley Sewerage Authority, NJ	0817	No, would blend if policy finalized	Additional facilities would cost $33.4 million, plus unknown costs for land.	Currently discharges flows over 60 mgd through two CSO outfalls. Outfalls scheduled to be closed. Plans to blend under approved Consent Order and Final Judgement. This could be adversely affected if blending is disallowed.
State of Pennsylvania Department of Environmental Protection	0825	n/a	For the last 10 years, Pennsylvania and other states have required programs of initial I/I removal with follow-up wet weather retention tanks. This approach is both environmentally protective and relatively moderate in cost. Between 15 and 20 systems now have retention tanks and in many of these cases the tanks were built for about $1.50 per gallon stored.	
Little Blue Valley Sewer District, MO	0886	Yes	We estimate a cost of more than $100 million for construction of additional wastewater treatment facilities.	40 mgd plant sometimes receives wet weather flows in excess of 300 mgd.
City of Waynesboro, VA	0891	unclear	Treatment facility upgrade estimated at $25-30 million, "three to four times greater than if blending were allowed."	

Utilities Acknowledging Blending in Comments			
Jurisdiction	***Doc. No.***	***Blending now?***	***Additional cost or technology information***
Las Gallinas Valley Sanitary District of Marin County, CA	0363	Yes	District has spent over $6.3 million to reduce I/I, plans to continue blending.
Water Resource Protection, City of South Portland, ME	0417	Yes	Blends 7-8 times per year
Monterey Regional Water Pollution Control Agency, CA	0424	Yes	Received federal funding for construction of the POTW
Central Marin Sanitation Agency	0508	Yes	Received federal funding for construction of POTW
City of Rome, GA	0509	Yes	City is currently under Consent Order; EPA Region 4 is requiring secondary treatment for all flow City has spent $41 million on collection system repairs since 1988
Downers Grove Sanitary District, IL	0517	Yes	Blending has been recognized in the district's NPDES permit since 1977
Massachusetts Water Resources Authority	0467	Yes	MWRA's new secondary treatment facility was "sized, designed, and built under the direct guidance of EPA"
Metropolitan St. Louis Sewer District, MO	0479	Yes	
Upper Blackstone Water Pollution Abatement District, MA	0481	Yes	Planning in 2001 showed blending to cost one-third of treatment options for peak flows Blending four times per year
City of Gresham, Department of Environmental Services, OR	0523	Yes	Received federal funding for construction of POTW, but blending is not recognized in the NPDES permit
City of McMinnville, Community Development Department, OR	0554	Yes	POTW was designed to blend, but blending is not recognized in the NPDES permit
Greater Lawrence Sanitary District, MA	0555	Yes	Finalization of policy will allow district to proceed with plans under its LTCP. Completion of the LTCP will reduce CSO volumes by 50 percent. District has severe economic limitations that would be exacerbated without the blending policy.

Estimate of additional costs for POTWs if blending is not allowed

I. CSO facilities:

- A CSO cost estimating model was created in 1993 to provide estimated costs for several nationwide CSO control goals to support the Needs Survey, and eventually one was selected to support the 1994 CSO Policy and also included in the Needs Survey.
- CSO cost model uses available data from all CSO facilities (one facility is defined as a combined sewer system that is serviced by a treatment plant - New York City has 14 facilities), and estimates the CSO control cost for each CSO facility. The summary costs of all the facilities in the nation thus become the national costs (or Needs).
- The cost model uses national rainfall data to select design storms (originally divided the nation into 5 rainfall regions, later increased to 20 rainfall regions), population and service area of CSO facilities. Rainfall and service area generated rainfall volume. Based on NURP (national urban runoff program - EPA mid 1980's) data, urban population was used to estimate the percent impervious area, and the runoff coefficient, and thus the amount of runoff. The amount of runoff that exceeded available storage capacity in sewer systems became CSOs.
- The cost model assumed 4 different CSO control levels:
  1). Storage and full secondary treatment for all but 2 overflows per year in one facility ($220 billion - 1994 dollars)
  2). Storage and full secondary treatment for all but 4 - 6 overflows per year ($175 billion)
  3). Storage and full secondary treatment for all but 8 - 10 overflows per year ($115 billion)
  4). Flow through primary sedimentation for all but 4 - 6 events per year (about 85% of CSOs are treated - $42 billion)
- Option 4 was selected for inclusion in CSO Policy and was called the Presumptive Approach - meaning presumed to meet the water quality standards. The $42 billion was used in the subsequent Needs Survey as the CSO Needs.
- Option 1 was based on providing storage for all CSOs (except 2 events a year) for full secondary treatment following storm events, and the estimated national cost was $220 billion in 1994 dollar. The estimated portion of CSOs that reach treatment facilities is then used to calculate the additional costs that will be needed at POTWs servicing combined sewer systems, if blending is not allowed at these POTWs. The portion of CSOs that does not reach POTWs can be handled with on-site storage or treatment, and is not part of calculation.
- Assuming 40% - 60% of the wet weather flows in combined sewer systems reach POTWs (NYC's estimate 60% - 80%, CSO Partnership estimates 40% - 70%), the $220 billion estimated costs can be adjusted proportionally (basic technology remain the same - building storage facilities). Therefore, the estimated additional costs to the POTWs servicing combined sewer systems, if blending is not allowed, would be 40% - 60% of the $220 billion, or $88 billion - $130 billion. This estimate could increase if CSO facilities implement the CSO Policy to maximize treatment capacities by diverting more flows to POTWs. With good operation of real-time controls in the sewer systems, additional 50%

of wet weather flows could reach POTWs, and the costs could increase proportionally.

II. SSO facilities

- In 1996, EPA used a SSO cost estimating model to estimate the national SSO control costs. The cost model took into consideration the rainfall data (dividing the nation into 5 rainfall regions), the service area, the existing available POTW treatment capacity, the available storage capacity in main sewer systems, and the infiltration/inflow (I/I) coefficient (a function of existing sewer performance) of the sewer systems.
- The cost model was based on the assumptions that reducing SSOs could be achieved by reducing I/Is, increasing storage capacities (i.e., storage tanks), and increasing treatment capacities. The model estimated the SSO control costs for each of the nation's separate sewer systems by determining the least costly combination of reducing I/I flows, increasing storage capacity and increasing treatment capacity. The summary of the estimated costs of all the sewer systems in the nation thus became the national estimate.
- The model assumed that on a system-wide basis, I/I flows could only be reduced by 50% cost-effectively. The rest of the costs would be building more storage and treatment capacities (it was determined that building storage facilities was less costly than building treatment facilities) to ensure all captured SSOs receive full secondary treatment at POTWs.
- The cost model estimated that the national SSO control costs to achieve one wet weather overflows in five years equaled $88 billion. Like estimate for POTWs servicing combined sewers, the portion of wet weather flows that will reach POTWs is used to determine the additional costs at POTWs servicing separate sewers, if blending is not allowed, since storage facilities would then be needed at the treatment facilities.
- Limited data indicate about 80% of wet weather flows in a leaky sewer systems reach POTWs.
- Assuming 90% - 95% of wet weather flows nationwide reach POTWs, the estimate for additional costs at POTWs therefore is 90-95% of the $88 billion national SSO control cost estimate, or $79billion - $83 billion.
- The cost estimate could be higher under existing conditions, since more wet weather flows probably reach POTWs currently without the I/I reduction (50% reduction in the model) assumed in the SSO control cost estimate

Congresswoman Sue Kelly
Statement
April 13, 2005
Water Subcommittee Hearing on Blending

Thank you Chairman Duncan for the time and for holding this hearing today.

Managing wastewater runoff is an incredibly important task for our local communities.

I think everyone on today's panel can and will attest to that. Their presence here today is testament to the issue's salience in our communities.

Over the past two weeks I have visited areas of my district that have been seriously damaged by heavy rains and flooding.

Literally hundreds of people will not be able to return to their homes.

Damage estimates for the Hudson Valley are over $100 million.

In addition to home and property damage, health authorities are warning that well water might be contaminated by upstream sewage and wastewater treatment plant discharge.

So there are times when Mother Nature will not cooperate with our regulations, regardless of how strict, and wastewater discharges occur.

But these occurrences should be limited to such emergencies, and I fear that blending waste streams at times other than such disasters will result in the unnecessary discharge of harmful contaminants and cause tremendous risks to the public health.

My constituents are very concerned with any modifications to EPA guidelines.

In the Hudson Valley, we are firm believers in the importance of systems that will restore and protect the great diversity of critical water resources in our area.

It is this belief that has led me to introduce the Clean Water Infrastructure Financing Act, which will dedicate $25 billion over 5 years to improving the quality of our nation's deteriorating water infrastructure.

Last Congress, 151 bipartisan cosponsors, many on this Subcommittee, joined me in supporting this important investment, and I plan to reintroduce it again in the near future, as the need for this investment is being demonstrated by today's hearing.

Wastewater infrastructure is of vital importance to our quality of life.

It is crucial that we carefully review any proposed changes to EPA guidelines to ensure that they do not undermine protections in place for our water resources.

I hope today's hearing will be a first step in recognition of the poor state of our water infrastructure and the start of examinations into how to bring it back from its current state of disrepair.

GARY G. MILLER
42ND DISTRICT, CALIFORNIA

ASSISTANT WHIP AT LARGE

COMMITTEE ON FINANCIAL SERVICES

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE

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Statement of Representative Gary Miller
Subcommittee on Water Resources and Environment
Hearing on Wastewater Blending
April 13, 2005

Mr. Chairman, thank you for holding a hearing to discuss the issues surrounding wastewater blending policies. I believe that if we want to sustain America's economic growth and provide for a rapidly increasing population, we must ensure efficient and reliable access to water resources and pursue a modernized sanitation infrastructure.

As a representative of Southern California, wastewater treatment and water scarcity issues are particularly important to me. Many states, especially California, face the challenge of providing sanitation and water resources for their growing population. Southern California, home to 17 million people, is the most populous metropolitan region in the country. It is estimated that the Southern California population is likely to grow by more than 6 million people by 2025. With increased demand, decreased availability of imported water and higher water quality requirements, future water supplies will become even more limited and expensive.

I firmly believe that we as a subcommittee should continue to work with the EPA on policies to provide practical solutions while maintaining and improving water quality. I support recent EPA proposals that many municipalities in California consider a reasonable approach to dealing with the practice of blending wastewater flows during extreme wet weather events. However, some environmentalists are trying to block this effort. If they were to succeed, it would result in the needless expenditure of hundreds of millions of dollars of limited public resources on storage basins and expanded secondary facilities that would have little, if any, positive environmental impact.

While the EPA and this Subcommittee continue to address this issue, it is important to discuss and form policies that ensure proven, environmentally-responsible approaches are utilized and costly reactionary approaches, which are based on emotion rather than science, are rejected. Otherwise, despite our good intentions, we will never be able to meet the cost to communities of managing sewage overflows. We must continue to move forward and pursue the implementation of cost-effective, environmentally-sound sewer overflow control policies. This is the only way to meet the wastewater needs of our communities while protecting our constituents from needless expenditures.

Again, I commend Chairman Duncan for convening this hearing on a matter that is of such great importance, not just to Californians, but also to the nation as a whole. It is my hope that based on this hearing; we will be able to collaborate with local communities to find innovative solutions to accommodate our nation's wastewater needs.

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EOA, INC.

Eisenberg, Olivieri & Associates

Environmental and Public Health Engineering

TESTIMONY OF

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April 13, 2005

Submitted to the

SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

in

WASHINGTON, DC

Public Health Implications Associated with the Practice of Wastewater Treatment Plant Blending – Concerns and Misconceptions

Testimony of Adam W. Olivieri, Dr. P.H., P.E.
April 13, 2005

Opening

Good morning Chairman Duncan, Congresswoman Johnson, and members of the Committee, my name is Adam Olivieri. I am currently a Principal Engineer for EOA, Inc. and have acted in this capacity since 1985. I have over 19 years of experience as a consulting engineer on projects related to water recycling, water quality, public health assessment, and storm water management. I also have 10 years experience working for a California state regulatory agency and the University of California at Berkeley. I have a B.S. degree in Civil Engineering and a M.S. degree in Civil Engineering with a Sanitary/Environmental Specialty from the University of Connecticut. I also have an M.P.H. degree and a Doctor of Public Health (Dr.P.H.) in environmental health sciences from the University of California at Berkeley. I am a professional Civil Engineer registered in the State of California (Certificate Number CE 26605) and a registered Environmental Assessor I (Certificate Number REA 00391).

I would like to thank you, Chairman Duncan, and the members of this Committee for your continued commitment to clean water issues – in California and nationwide. Your dedication to solving the challenges our communities face across the nation is essential to achieving the goals of the Clean Water Act.

The purpose of my testimony is to help improve the understanding the public health implications associated with the practice of wastewater treatment plant blending relative to exposure to microbial pathogens. There is significant concern regarding the current practice of blending treated effluents during high treatment plant flow events prior to discharge to local receiving waters, and the potential pubic health risks associated with probable exposure to pathogens in the receiving water. My testimony on this subject is based on my education, experience and the evidence in the scientific literature.

Background

Waterborne diseases such as cholera were rampant during the middle of the nineteenth century. Epidemics killed thousands of people. Awareness of the role of microorganisms in causing diseases led to improvements in the treatment of both wastewater and potable water. Today the public awareness and concern about the safety of the nations' water resources is high, and thus the public expectations are high as well.

In the United States, there are over 15,000 wastewater treatment facilities, most providing primary and secondary treatment with some form of disinfection. These plants are typically designed to treat both domestic and industrial wastewater. Domestic wastewater includes human and animal waste (urine and feces) as well as grey water from bathing washing and cooking. Infectious diseases caused by pathogenic bacteria, viruses, and protozoa or by parasites are the most common health risks associated with exposure to water through recreational activities. A summary of the most important microbial organisms that may be pathogenic to humans and that can be directly or indirectly transmitted by the waterborne route are shown in Table 1. While many pathogens are known it is likely that many waterborne pathogens are still not recognized.

Further, contaminated food, hands, utensils and clothing play a significant role in the transmission of microbial pathogens and infectious diseases.

Table 1 Major Waterborne Bacterial Diseases

Bacterial agent	Major Disease	Major reservoir
Salmonella typhi	Typhoid fever	Human feces
Salmonella paratyphi	Paratyphoid dysentery	Human feces
Shigella	Bacillary dysentery	Human feces
Vibrio cholerae	Cholera	Human feces
Enteropathogenic E. coli	Gastroenteritis	Human feces
Yersinia enterocolitica	Gastroenteritis	Human/animal feces
Campylobacter jejuni	Gastroenteritis	Human/animal feces
Legionella pneumophila	Acute respiratory illness (legionnaire's disease)	Thermally enriched waters
Mycobacterium tuberculosis	Tuberculosis	Human respiratory exudates
Leptospira	Leptospirosis (Weil's disease)	Animal feces and urine
Opportunistic bacteria	Variable	Natural waters

Adapted from Bitton (1994).

In general, wastewater flows are directly related to the domestic household use of water. Roughly, 80% of the wastewater is derived from household use. Other flows come from industry and groundwater infiltration. The latter source, together with rainfall entering the sanitary sewer system, can dramatically increase the flow in sewers during wet weather to a point where the management of all flows (i.e., transport, treatment and discharge) becomes a significant issue, in terms of both the potential water quality impacts and the very high costs associated with mitigating such flows through flow reduction and/or increased treatment capacity.

Pathogens of Public Health Concern

When considering the infectious disease implications of human exposure to wastewater, the following factors need to be considered: (1) for waterborne illness or disease to occur an agent of disease (pathogen) must be present, (2) the agent must be present in sufficient concentration to produce disease (dose), and (3) a susceptible host must come into contact with the dose in a manner that results in infection or disease (Cooper 1991b). To evaluate the potential public health significance of blending or varying degrees of treatment, it is necessary to evaluate all of the above for a given site.

Although a wide range of pathogens have been identified in raw wastewater, relatively few types of pathogens appear to be responsible for the majority of the waterborne illnesses caused by pathogens of wastewater origin (Mead et al. 1999). The pathogens of public health concern, based on food borne disease in the U.S, were identified by the Centers for Disease Control (CDC) (Mead et al. 1999). In characterizing food-related illness and death in the United States, Mead and co-workers estimated the annual total number of illnesses caused by known pathogens, adjusted for the fact that many illnesses are not reported, at 38.6 million cases with 5.2 million cases (13.5%) from bacterial pathogens, 2.5 million cases (6.5%) from parasitic pathogens, and 30.9 million cases (80%) from viral pathogens. With this background it follows that many of these pathogens find their way into domestic wastewater.

Review of the CDC research data approximates that 85% to 90% of all non-foodborne cases (i.e., cases related to other routes of transmission such as waterborne) in the United States are thought to be caused by viral pathogens (i.e., enteric viruses). The relative importance of viral pathogens in waterborne transmission of disease, is supported by data from the World Health Organization (World Health Organization 1999) and by research conducted over the last 20 years on exposure to waterborne pathogens through recreational activities (Cabelli 1983; Fankhauser et al. 1998; Levine and Stephenson 1990; Palmateer et al. 1991; Sobsey et al. 1995; Wade et al. 2003).

Human contact with water in fecally contaminated receiving waters may also cause other non-gastrointestinal disease outcomes such as acute febrile respiratory illness (Fleisher et al. 1996), general respiratory illness, ear infections (Fleisher et al. 1996), eye ailments, skin rashes (Ferley et al. 1989), and other less common health outcomes. While the cumulative risk faced by recreators is a function of all of the pathogens present in the receiving water, investigations associated with recreational exposure have focused on the risk of gastroenteritis which is consistent with federal regulatory guidelines and recently published state-of-the-art risk assessment studies (Soller et al. 2003).

Sources of Microbial Pathogens

The pathogens that have been reported to be responsible for the vast majority of illnesses in the United States ("pathogens of public health concern") come from a variety of sources including:

- Tributary inflows (composed of urban and agricultural runoff, including stormwater);
- Food wastes;
- Discharge of sanitary vessel waste; and
- Fecal waste of wildlife, including waterfowl that inhabit and/or utilize the receiving waters and environs;
- Leakage of sewer lines;
- Wastewater Treatment discharges;
- Animal wastes (from domestic animals) (Young and Thackston 1999);
- Illegal and/or illicit waste discharges (from industrial, commercial, and/or residential sources); and
- Recreators (EOA Inc. and U.C. Berkeley 1995; Yates et al. 1997).

Concentration of Pathogens in water

Unfortunately, only limited data have been published in the scientific literature to date on microbial pathogen concentrations in receiving waters and stormwater (Table 2). The limited amount of pathogen data available may be because most receiving water standards are still based on bacterial indicator. Furthermore, data characterizing the potential concentration of pathogens associated with blended wastewater treatment plant effluents is even more limited but is currently under investigation by the Water Environment Research Foundation (WERF).

Regardless of the availability of data, it is clear that microbial organisms (i.e., pathogens and indicator organisms) can be associated with numerous sources and do exist in receiving waters. Several studies in southern California have clearly demonstrated that indicator organisms

are present in stormwater from both urban and undeveloped areas, where the potential from human sources is limited (Schoeder et. al. 2002, Schiff et. al. 2001)[1].

Table 2 Overview of Pathogens in Environmental Waters

STORMWATER CONCENTRATION TABLE

Pathogen Type	Pathogen	Range	Source	Notes
Virus	Rotavirus	2.4×10^{-1}/L	Rose et al. (1987)	surface water
		$0.06 - 2.9 \times 10^{1}$/L	Gerba et al. (1996)	marine and freshwaters
	enteroviruses	0.1-6/10L	Griffin et al. (2003	marine water
		<0.01-0.24	MWRCD (2000, 1996, 1995, 1994)	urban fresh water
	reovirus	0.2-0.5/L	Griffin et al. (2003	Marine water
	adenovirus	$8.8 \times 10^{2} - 7.5 \times 10^{3}$L	Jiang et al. (2001)	PCR results: genomes/Liter
Protozoa	Cryptoporidium parvum	20 oocysts/L	States et al. (1997)	g. mean CSO discharge
		0.4 - 4/L (ICR) 0.1 - 0.8/L (EPA1623)	WWETCO (2003)	urban and rural creeks
		20 samples ND	Schroeder et al., (2002)	MDL ranged from 0.3-580oocysts/100mL
		130 cysts/L	Gibson et al. (1998)	mean, CSO discharge
	Giardia lamblia	20 samples ND	Schroeder et al., (2002)	MDL ranged from 0.3-580oocysts/100mL
		12-13/L (ICR) 0.35 - 3.75/L (EPA1623)	WWETCO (2003)	urban and rural creeks
		30-1000 cysts/L	Knauer et al. (1999)	CSO discharge
		150-300 cysts/L	Bowman (2002)	CSO discharge
		300 cysts/L	States et al. (1997)	g. mean CSO discharge
		800 cysts/L	Gibson et al. (1998)	mean, CSO discharge
Bacteria	Shigella	20 samples ND	Schroeder et al., (2002)	MDL ranged from 2.5-5000cfu/100mL
	Salmonella	<0.15 - 0.88/100mL	1997, 1996, 1995, 1994, 1993, 1991, 1989)	urban fresh water

Routes of Exposure

An exposure pathway may be defined as the course taken by a microorganism from its source to reach its receptor (human). Exposure is the most important link in the chain of infection and disease. There are a number of routes of exposure (Bitton, 1994):

- Person to Person – the most common route with AIDS and the common cold being good examples; however according to Bitton (1994), this route of transmission is important in the transmission of fecally transmitted diseases
- Waterborne –Individuals may be exposed to microbial pathogens released from a municipal wastewater treatment plant during blending events while swimming or recreating in surface water that received the discharge. In addition, during periods of high stormflows, it is extremely dangerous to swim or wade in the receiving waters, so the potential for human contact with bacteria and/or human pathogens that may be present is minimal.
- Foodborne - foods serve as a significant vehicle in the transmission disease microorganisms as noted previously.
- Airborne – this route may be associated with the transmission of aerosols generated by wastewater treatment plants and the beneficial reuse of effluents. However, in the United States, numerous studies have shown no increase in the incidence of human disease has occurred as a result of exposure to microbial aerosols either generated by a treatment plant or by the reuse of effluents (Bitton, 1994, NRC 1996 and 1998, Cooper 1991a).

[1] Epidemiological studies to investigate the relationship between indicators and pathogens and illness have generally been conducted during the summer recreational season and not during periods of stormwater runoff and thus the results are not directly applicable to stormwater runoff.

- Vector-borne – transmission can occur from arthropods (fleas, insects) or vertebrates (dogs, cats, rodents) with the possibility of the pathogen multiplying in the vector, however, this route is not as important as person-to-person for the transmission of fecally transmitted diseases.
- Fomites – some pathogens can be transmitted by nonliving objects such as clothes toys, utensils, etc.

Public Health Risk - Assessment

Risk assessment has generally been the tool used to estimate risk associated with environmental exposures to pathogens[2]. Microbial risk assessment involves evaluating the likelihood that an adverse health effect may result from human exposure to one or more pathogens. A review of the recent work conducted in the field of microbial risk assessment indicates that two approaches for microbial risk assessment are commonly reported in the literature (Soller et al. 2003). In general, those approaches may be categorized as static, individual–based risk assessment, or dynamic, population-based risk assessments.

The static model (NRC 1983) is commonly used as a framework for carrying out microbial risk assessments related to water- and food-borne pathogens (Crabtree et al. 1997; Farber et al. 1996; Hass et al 1999, Sanaa et al. 2000; Voysey and Brown 2000). Assessments using a static model typically focus on estimating the probability of infection or disease as the result of a single exposure event. These assessments generally assume that multiple or recurring exposures constitute independent events with identical distributions of contamination (Regli et al. 1991), and that secondary transmission (e.g., person-to-person transmission) and immunity are either negligible or effectively cancel each other out. In actuality, secondary transmission would increase the level of infection/disease in a community relative to a specific exposure to pathogens, and immunity would decrease the level of infection/disease in a community relative to a specific exposure to pathogens.

In the static model, it is assumed that the population may be categorized into two epidemiological states: a susceptible state and an infected or diseased state. Susceptible individuals are exposed to the pathogen of interest and move into the infected/diseased state with a probability that is governed by the dose of pathogen to which they are exposed and the infectivity of the pathogen.

Another methodology that has been employed as a risk assessment model is a dynamic model (Eisenberg et al. 1996; Eisenberg et al. 1998; EOA Inc. 1995; EOA Inc. and U.C. Berkeley 1995; EOA Inc. and U.C. Berkeley 1999; Soller et al. 2003). In a dynamic risk assessment model, the population is assumed to be broken into a group of epidemiological states. Individuals move from state to state based on the natural history of the specific infectious disease (duration of infection, duration of immunity, etc.).

The infectious disease process in a population is, fundamentally, a dynamic process. Therefore, the most rigorous and scientifically defensible approach for mathematically modeling the infectious disease processes is to employ a dynamic model[3]. The two most important factors

[2] Depending on the exposure scenario, health effects studies are sometimes used instead of risk assessments to develop regulatory policy. Health effects studies have played a significant role in developing regulatory policy for recreational water risks. While, in contrast, risk assessment models have historically been the primary toll used to develop regulations for drinking water exposures.

[3] Please note that under some conditions the results of the two risk assessment models yield similar results.

that affect the results of the modeling approaches are the dose of pathogens (which is directly related to the concentration in the receiving water) and the exposure intensity (which is a function of the frequency of exposure) (Soller et al 2003).

The reported results of a very simple static assessment (Katonak et.al, 2003) used to evaluate the potential public health concern associated with blending represents an estimate of the theoretical probability of illness/infection for a single exposure event for one individual. The static estimate is based on a number of conservative assumptions (e.g., no inactivation from disinfection) and only provides a gauge from which potential risk to an individual may be evaluated for a single exposure event. Clearly, as the authors' noted, the estimated risks will be lower if all flow is treated. However, the authors' estimated risks, even those based on the conservative assumptions, are within the range of risks considered acceptable by U.S. EPA national bacterial water quality criteria (i.e., the estimated maximum risk of infection 1/100 to 1/1000 vs. the median national water criteria risk of disease of 8/1000 to 1.9/100[4]).

Management of Risk

From a risk management perspective, the number of people exposed during events when blended effluent is discharged must be taken into consideration. Risk of infection/disease from a single exposure event above some predetermined tolerable level does not necessarily imply that public health concern is warranted. Specifically, the expected number of "cases" from an exposure event can be thought of as the product of the probability of illness (or infection) and the number of people exposed. It is within this paradigm that occupational exposure standards (where a lower number of people are exposed) for hazardous substances may be many times higher than levels acceptable for the general population (higher number of people exposed).

The protection of public health clearly dictates that when more individuals are potentially exposed to pathogens, a greater level of concern and thus protection is warranted when making risk management decisions. For example, one reason that a risk manager may decide to implement a control strategy at a specific location over another could be based on the actual or expected number of individuals potentially exposed.

Water quality regulation strategies endorsed by U.S. EPA follow the above public health concept. In the Ambient Water Quality Criteria for Bacteria (U.S. EPA 1986), EPA defines an acceptable swimming associated gastroenteritis (illness) rate and derives water quality criteria for designated beach areas, moderately used full body contact recreation areas, lightly used full body contact recreation areas, and infrequently used full body contact recreation areas. EPA's derivation of indicator bacteria limits based on the acceptable illness rate results in a maximum allowable density of indicator bacteria that increases as the potential number of exposed individuals decreases.

The current U.S. EPA approach is also consistent with a health based monitoring approach for recreational waters recently outlined by the World Health Organization (WHO) (WHO 1999) in which experts called for "an improved approach to the regulation of recreational water that better reflects health risk and provides enhanced scope for effective management

[4] The U.S. EPA Water Quality Criteria for Bacteria are the basis from which recreational water quality objectives are derived nationwide. EPA's water criteria document identifies an acceptable swimming associated gastroenteritis rate (median value) for freshwater of 8 cases per 1000 swimmers (U.S. EPA 1986). It should be clear, that this EPA acceptable illness rate is for a single recreational event and is regulated as a median (geometric mean) value.

intervention"[5]. The WHO approach also classifies health risk as a function of both degree of overall fecal contamination and susceptibility to human contamination.

Summary and Conclusions

Since the 1950s, numerous studies have examined the association between recreational water quality and health outcomes and many of these studies have reported an increased risk of illness associated with exposure to recreational waters (Wade et.al. 2003). However, epidemiological studies to investigate the relationship between indicators and pathogens and illness have generally been conducted during the summer recreational season and not during periods of stormwater runoff, and thus the results are not directly applicable to stormwater runoff and/or situations where blending may have occurred.

U.S. EPA recently reviewed the epidemiological and statistical methods used to derive the 1986 national water quality criteria (EPA, 2003). U.S. EPA has stated that it continues to believe that when appropriately applied and implemented the water quality criteria are protective of human health for acute gastrointestinal diseases. Although a number of new studies are underway (i.e., the BEACH Act 2000), EPA stated that no new epidemiological studies conducted since 1984 offer new or unique principles that significantly affect current water quality criteria (EPA, 2003).

An additional review of the most relevant epidemiological studies (Wade et.al. 2003) found that exposure below the EPA suggested water quality criteria presented no significant risk (i.e., swimmers vs. non-swimmers), while exposures above the criteria were associated with elevated and statistically significant risk of gastrointestinal illness to recreators. Further, taken as a whole, the body of literature supports use of the U.S. EPA water quality as useful predictors of gastrointestinal illness in recreational waters (Wade et.al 2003)[6].

The reported results of a very simple static assessment (Katonak et.al, 2003) used to evaluate the potential public health concern associated with blending represents an estimate of the theoretical probability of illness/infection for a single exposure event for one individual. The static estimate is based on a number of conservative assumptions (e.g., no inactivation from disinfection) and only provides a gauge from which potential risk to an individual may be evaluated for a single exposure event. Clearly, as the authors' noted, the estimated risks will be lower if all flow is treated. However, the authors' estimated risks, even those based on the conservative assumptions, are within the range of risks considered acceptable by U.S. EPA national bacterial water quality criteria (i.e., the estimated maximum risk of infection 1/100 to 1/1000 vs. the median national water criteria risk of disease of 8/1000 to 1.9/100).

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[5] According to this new approach for health based monitoring of recreational waters, the most robust, accurate, and feasible index of health risk is provided by a combination of a measure of microbiological indicator of fecal contamination with an inspection based assessment of the susceptibility of an area to direct influence from human fecal contamination (because "sources other than human fecal contamination present a significantly lesser risk to human health and by adopting a combined classification it is possible to reflect this modified risk").

[6] The author's note that no studies to date have specifically examined the impact of water exposure on persons whose immune system is compromised (Wade et.al. 2003). One recent comprehensive review of the literature on sensitive subpopulations' exposure to enteroviruses in recreational waters found that both qualitative and quantitative data currently available on populations of increased susceptibility to enteroviral disease offers limited insights for microbial risk assessment (Parkin et.al. 2003). Further, the results of the literature review indicated that there is more evidence ruling out waterborne transmission, or is not definitive than there is evidence that is suggestive or definitive for transmission of enteroviruses through recreational water (Parkin et.al. 2003).

A "one-size-fits-all" approach to address the potential public health concerns associated with blending would probably divert limited resources towards efforts where a commensurate public health benefit would not be realized. A risk-based management approach would better allow resources to be focused on the most important public health concerns and at the same time protect the beneficial use of the receiving waters.

It should be recognized that many aspects of the estimation and evaluation of potential health risks associated with exposure to microbial pathogens during recreational activities and the potential relationship to the use of blending as a management tool to treat wastewater during peak flow conditions are poorly understood. Many decisions must be made in an atmosphere of uncertainty with the "precautionary principle" encouraging decisions be made to err on the side of caution. However, it is imperative that sensible decisions are made that further a balanced approach to managing health risks.

There is concern regarding potential health risks associated with exposure to waters receiving discharges from treatment plants that are blending with storm waters. However, based on the above discussion, a number of factors support the use of a risk-based management approach that allows for the continued use of bending under conditions where current water quality criteria are met and the public health is protected.

I hope that above discussions helps to improve the understanding of the nature of the public health implications associated with the practice of wastewater treatment plant blending relative to exposure to microbial pathogens.

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TESTIMONY of

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BEFORE THE SUBCOMMITTEE ON
WATER RESOURCES AND ENVIRONMENT
COMMITTEE ON
TRANSPORTATION AND INFRASTRUCTURE
U.S. HOUSE OF REPRESNTATIVES

April 13, 2005

Mr. Chairman and members of the committee, thank you for inviting me here this morning. My name is Joan Rose, I am a professor at Michigan State University and hold the Nowlin Chair in Water Research. I am a public health water microbiologist and have studied bacteria, parasites and viruses that make people sick and are found in sewage and polluted waters, for over 20 years. I was involved in the investigation of the *Cryptosporidium* waterborne disease outbreak in Milwaukee in 1993 that sickened 400,000 and killed those with weakened immune systems. I am very familiar with that parasite. The genotyping (genetic evaluation) data now show that sewage was the likely source of the outbreak. I have studied the contamination of beaches and recreational waters where people have gotten sick. From the Florida Keys to the beaches of Lake Michigan I have been sampling for viruses and bacteria and we have found evidence of human viruses in these waters. We know that young children are particularly at risk as they play in the water, turning a day of fun at the beach into a day of illness.

I have been collecting and sampling wastewater, untreated, treated and highly treated wastewater since the 1980s. I recently finished a study of six wastewater reclamation facilities where we looked for the pathogens, *Cryptosporidium*, *Giardia* and enteric viruses (as well as bacteria) [Funded By WERF# 00-PUM-2T REDUCTION OF PATHOGENS, INDICATOR BACTERIA, AND ALTERNATIVE INDICATORS BY WASTEWATER TREATMENT AND RECLAMATION PROCESSES]. I developed with my colleagues a method and have detected "live" and infectious *Cryptosporidium* in sewage. The results of that study show that untreated sewage contains large concentrations of pathogens, secondary treatment reduced the bacteria, viruses and parasites from 89 to 99.9% and upstream treatment affected the disinfection step. Chlorination did not kill any of the *Cryptosporidium*.

The 1972 *Clean Water Act* is about health. The U.S. led the way for protection of waters by mandating secondary treatment long before Europe caught on, recognizing that "dilution" wasn't sufficient to protect waters and public health from waterborne pathogens. I learned a lot about how Congress took a leadership role as I listened to Honorable Paul G. Rogers at a National Academy, National Institute of Health meeting in 2003 talk about the development of that important legislation (Reiter, 2004). The goal: prevent the discharge of constituents to surface waters from sewage treatment plants that pose a threat to public and aquatic health. Even very large dilution, in marine waters with an outfall which blended the sewage with the marine waters, was not seen as acceptable as studies in Mamala Bay, Honolulu, Hawaii showed that primary treatment was not sufficient, with bacteria, viruses and parasites found on the beaches and evidence that the outfall was contributing to this.

Sewage contains pathogens that have come directly from the infected people in the community. Hundreds of pathogens (human viruses and parasites), that number in the millions in concentrations, are found in sewage and are "young," that is having been in water prior to discharge in the environment less than 24 hours. There is plenty of documentation that these pathogens make others sick when they get into waterways. These pathogens can impact both drinking water facilities and recreational waters. *Cryptosporidium* is completely resistant to chlorination, the most common disinfection used in wastewater and drinking water treatment. I have heard some in the water industry and engineering fields say that we can kill the oocysts with water chlorination, **but that is**

simply not true. Physical removal through primary and secondary treatment and filtration are the most common way that we reduce the parasite risk for both *Cryptosporidium* and *Giardia* parasites. As explained in more detail below, primary treatment removes approximately 50% of the parasites in sewage. That is not good enough to protect public health. It means that 1000 parasites in 100L are reduced to 500 parasites, and it takes only **one** to start an infection.

While other animals can excrete parasites and bacteria, sewage contains not only these organisms but also human viruses which are not found in animal waste. There are special genetic types of parasites that are found only in animals or humans and do not cross over (from animal to human) to cause infection. For example, the studies done on the Milwaukee outbreak of *Cryptosporidium* showed that it was due to the human type coming from human fecal material and human-associated wastewater (Rose et al., 2002).

We have learned a lot about pathogens in sewage in the last 30 years that we did not know before.

- We have identified new microbes/pathogens of concern. We have new methods which can detect these. (We did not know about *Cryptosporidium* when the CWA was first written.)

- We know that if we drink, ingest, contaminate our hands even with very small concentrations (numbers of pathogens) this can still cause an infection (Haas et. 1999).

- We know that our young children and elderly, the immunocompromised (those on cancer therapy, transplant patients, with AIDS, diabetes) are at the highest risk of ending up in the hospital or even dying when exposed to these pathogens (Gerba et al., 1996).

- We now are particularly aware that the bacterial indicator system we use to judge water quality, water and wastewater treatment in particular is not adequate to understand or protect against viruses and parasites (NRC, 2004).

We also know that we have a lot more people, a lot more sewage, aging infrastructure, and more infiltration and inflow. These are some of the many challenges facing the industry.

Primary treatment is not effective in the significant removal of microbial pollutants. It may settle out some protozoa and parasite ova and cysts. A few microorganisms may be reduced due to partial particulate removal. A Canadian study of a primary wastewater treatment plant (Payment, Plante, and Cejka, 2001) showed that fecal coliforms were the most numerous of the indicator bacteria and their removal averaged 25%. Fecal streptococci removal was 29%, while *Escherichia coli* removal was 12%. *Clostridium perfringens* removal averaged 51%. There was a 76% removal for *Giardia* cysts and *Cryptosporidium* oocysts removal averaged 27%. There was no removal of human enteric viruses (Payment, Plante, and Cejka, 2001). The Canadian study concluded that

primary treatment alone is insufficient to allow recreational contact in the waters affected by the plant's outfall.

In secondary aerobic wastewater treatment, several specific studies including my own show that parasites *Cryptosporidium* and *Giardia* were reduced 92 to 99.9%. *Clostridium perfringens* spores, *Clostridium perfringens* total counts, somatic coliphages, and heterotrophic bacteria were reduced by approximately 85 - 99%. All of the other microorganisms were reduced by at least ~99.97%

Disinfection of wastewater with chlorine is critical to the control of viruses and bacteria and is influenced by many things. There are a number of important points to be made about disinfection.

- *Cryptosporidium* is completely resistant to chlorination, *Giardia* is the next most resistant, then viruses. Bacteria are the easiest to kill.
- Neither *E. coli* nor enterococci are sufficient indicators of virus reductions during primary or secondary sewage disinfection.
- Solids and the amount of ammonia in the water influence how well we can kill the viruses and bacteria with disinfection (and primary sewage has more solids and more ammonia than secondary sewage).
- When 10% of secondary sewage was added to tap water, chlorination was almost completely ineffective in killing Poliovirus. (24°C, 0.5 mg/l, 15 minutes contact time.) (Sobsey, 1989.) Poliovirus is one of the most susceptible viruses to chlorination generally.
- Recent studies by scientists at Duke University and University of North Carolina (FATE AND PERSISTENCE OF PATHOGENS SUBJECTED TO ULTRAVIOLET LIGHT AND CHLORINE DISINFECTION, LINDEN ET AL., 98-HHE-02; WERF) have found that disinfection efficiency is reduced when particles are in wastewater. In fact, coliform bacteria and viruses were reduced by only about 90 to 99%, where >99.9% to 99.99% was achieved using chlorination and ultraviolet radiation with virtually no particles in the wastewater.

The blending or dilution of untreated or partially treated sewage with the treated flow has been an issue for many communities. I began looking for data on pathogens in blended effluents in an attempt to answer the question about how many pathogens would be found in the sewage effluent if one were to blend. In fact, there is very little information available. Initially, I undertook just a mathematical approach to examine the concentrations that might be in blended effluents as compared to fully treated effluents. Using real monitoring data on **average concentrations** of viruses and parasites that were found in untreated, primary treated and secondary treated wastewater, I took a look at one facility's design and flows and added up the numbers. Using human probability of infection models I calculated the risk if one were to swim near this discharge. Obviously there is a wide array of facility treatment designs and a wide array of practices in blending that would need to be examined and could be examined in a similar fashion.

I also looked at some data from Milwaukee which, to their credit, did some monitoring, and I must say I applaud their efforts to monitor the parasites in their wastewater.

I would like to summarize what I found.

- Greater than 99% of the loading of pathogenic viruses and protozoa resulted from the untreated/partially treated portion of the blended effluent. The risks associated with swimming in waters receiving the blended flows were found to be 100 times greater than if the wastewater were fully treated and were high for viruses and *Giardia* (1/100 risk).
- There were 13 times more viruses in the primary then the secondary, 4 times more *Cryptosporidium* oocysts in the primary then the secondary and 4.8 times more *Giardia* cysts in the primary then the secondary.
- The Milwaukee data was examined and showed that *Giardia* cysts were high in blended effluent (378/L compared to the average in untreated sewage 505/L). When the water was not blended the averages were 0.2/L. This represents a 1000 times increase in risk compared to the mathematical calculation given previously, and risks were 1/10 of contracting giardiasis from swimming near this outfall.

We should keep in mind that just meeting the NPDES discharge standards is not the only consideration.

- The bacteria standards were developed with the consideration that secondary treatment was going to be employed.
- The science tells us that these standards do not address all of the "constituents of concern" that can cause harm to humans.
- We are misleading the public if we say that blending protects public health, relative to treating our sewage flows, which is what most citizens believe the industry is doing. We are adding back a larger concentration of contaminants from the untreated or partially treated flow, and we are reducing the efficiency of the treatment.

Finally I would like to state that I believe:

- The wastewater industry is one of the unsung heroes of public health and with our new science knowledge we recognize that much more effort needs to be focused on wastewater treatment. We need to examine advances in treatment, better disinfection, and emerging contaminants.
- More monitoring data are needed. The diversity of treatment and blending scenarios under various types of rainfall events need to be examined carefully. Communities should be aware of public health benefits that wastewater treatment provides and decisions on investments in our wastewater infrastructure should be based on water quality and health protection.
- Federal and State Leadership will be necessary to address the future challenges.
- The use of science-based risk assessment methods for addressing contaminants in water by EPA is an appropriate approach for developing rules that will ultimately protect public health.
- EPA needs to develop treatment standards and ambient water quality criteria for the full range of pathogens that threaten public health.

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NATURAL RESOURCES DEFENSE COUNCIL

TESTIMONY OF

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BEFORE THE HOUSE COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE'S WATER RESOURCES AND THE ENVIRONMENT SUBCOMMITTEE

APRIL 13, 2005

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Mr. Chairman, members of the Committee, my name is Nancy Stoner. I am a senior staff attorney with the Natural Resources Defense Council (NRDC), and the Director of NRDC's Clean Water Project. NRDC is a national non-profit organization that has more than 500,000 members and has been working for more than 30 years to protect our nation's natural resources, including protecting our waterways from pollution. Thank you for inviting me to speak to the committee today about EPA's proposed policy, National Pollutant Discharge Elimination System (NPDES) Permit Requirements for Municipal Wastewater Treatment During Wet Weather Conditions (Proposed Blending Policy). I welcome the opportunity to address the subcommittee on this topic of great importance and interest to the American public.

As most people know, sewage is comprised of a singularly unhealthy and unappetizing mix of human wastes, industrial chemical wastes, and commercial wastes containing grease, toxins, bacteria, viruses, parasites, intestinal worms, pharmaceuticals, hormones and antibiotics. EPA estimates of the amount of raw sewage dumped into U.S. waters every year range from 1.3 trillion gallons to 860 billion gallons. About 50 trillion gallons of sewage flows through sewage treatment plants in the U.S. every day, according to EPA. EPA estimates the value of our wastewater infrastructure to be more than $1 trillion dollars.

As the Chairman and Ranking member noted in a letter to the Chairman of the Budget committee earlier this year, experts estimate that each year, nearly 8 million Americans are sickened by waterborne illnesses. Many of these illnesses are due to contact with sewage discharges. Illnesses caused by contact with or consumption of sewage can range from cholera, hepatitis, gastroenteritis, and respiratory infections to giardiasis, cryptosporidiosis and dysentery. Small children, the elderly, cancer patients, and others with serious illnesses, 20-25% of the U.S population, are particularly vulnerable and are highly susceptible to outbreaks of pathogens.

Sewage pollution costs Americans billions of dollars every year in medical treatment, lost productivity and property damage. Sewage contaminates shellfish beds, pollutes drinking water supplies, harms fish and other aquatic wildlife, and damages coral reefs. Sewage is a major source of the nutrient pollution in many waters around the country that robs the waters of the oxygen that fish and shellfish need to survive and feeds toxic algal blooms.

Sewage discharges also harm local economies and small businesses. Sewage is the second largest known source of beach closures, a direct threat to businesses reliant upon coastal tourism. According to EPA estimates, coastal waters support 28.3 million jobs and generate around $54 billion in goods and services each year. Sewage contamination of shellfish beds is a serious threat to many small businesses. As noted by the Pacific Coast Shellfish Growers Association, "harvest closures not only lead to the loss of a wholesome food that is produced domestically, they also lead to the loss of family-wage jobs in rural communities which otherwise provide little in the way of employment opportunities... On the West Coast alone, the farm-gate value of our shellfish exceeds $89 million annually, which provides jobs and an important tax base in coastal communities."

Unfortunately, our nation's wastewater treatment infrastructure is not currently capable of fully protecting the public or our waters from the environmental and health threats posed by raw or inadequately treated sewage. In fact, in many communities across the country, our capacity to handle increased flows of sewage and stormwater continues to deteriorate. The American Society of Civil Engineers gave wastewater infrastructure a D- in its 2005 report card, down from the D rating it received in 2001, and as low a grade as it gave any type of infrastructure. Many sewer pipes are 50 or even 100 years old, and, like the rest of us, are not getting any younger. At the same time our infrastructure is deteriorating, more demands are being placed on many systems as populations increase, especially in coastal areas. Increased rates of land development are accompanied by an expansion of sewer lines, adding to the nation's million mile network of sewage collection pipes that have to be maintained. Meanwhile, global warming is likely to increase the size of storm events that treatment systems must contend with. In combination, these factors increase the threat of human and environmental exposure to sewage pollution. Unless investment in wastewater infrastructure substantially increases and treatment efficient improves, EPA predicts that by 2025 sewage pollution will exceed 1968 levels – the highest in our nation's history.

The threats to public health, the environment, and local economies posed by sewage discharges and aging and overwhelmed infrastructure are compounded by the current efforts to cut federal funding for sewage treatment infrastructure. The most recent proposed cuts only worsen what EPA has estimated to be up to a $13 billion annual shortfall in needed funding for wastewater infrastructure. EPA projects that the adverse impacts of this funding shortfall will only get worse unless we substantially increase investment in wastewater infrastructure.

What is the solution to the dual national problems of our aging sewage treatment infrastructure and a concomitant rise in the risks of waterborne illness, environmental degradation and associated economic consequences? NRDC supports maintaining the Clean Water Act's longstanding commitment to secondary treatment for sewage and providing substantially increased federal assistance to help communities provide that treatment, just as Congress provided in the construction grants program of the 1970's and 1980's. NRDC believes that effective sewage treatment is absolutely critical to protecting the public from the spread of waterborne illness.

EPA has a different approach. EPA proposes to authorize sewage to be routinely discharged without receiving any biological treatment during rain events. EPA would allow sewage treatment plants to rely solely on rudimentary solids removal during wet weather. Sewer operators would be authorized to use dilution and averaging to meet concentration limits instead of actual treatment. NRDC believes that EPA's proposed policy will worsen water quality, expose the public to greater risk of waterborne illness, and adversely affect the economy, including the shellfish industry, commercial and recreational sportfishing, and coastal tourism related industries. In addition, the policy undermines the Clean Water Act's requirement that sewage treatment plants provide a minimum of secondary treatment and violates EPA's longstanding prohibition on

bypassing, which is defined as the intentional diversion of waste streams from any portion of a treatment facility.

One of EPA's principal justifications for this weakening of treatment standards is the increasing cost of maintaining and upgrading sewer systems and treatment plants to provide full treatment. Yet, at the same time, EPA has cut by 40% over the past two years its proposed budget for "America's Clean Water Fund," the Clean Water State Revolving Fund, which assists communities to provide effective sewage treatment and meet other water quality needs. NRDC appreciates the leadership of the Chairman and Ranking Member in opposing these funding cuts to this program, which is so vital to the protection of public health and the environment.

EPA's proposed policy is also purportedly needed to address instances when precipitation (rainfall or snowmelt) is so heavy that a treatment system is overwhelmed and there is an elevated risk of "washout" of biological treatment units that provide the secondary treatment required by the Act. In fact, EPA's current rules already make an exception to the general prohibition on bypassing treatment for these types of instances. The existing rules allow for the bypassing of secondary treatment in such instances, provided the facility has taken appropriate measures to maintain and upgrade its system to handle routine operating conditions. If a system demonstrates that it is not feasible to prevent a treatment bypass, it is allowed to do so.

The proviso that before a system can bypass secondary treatment it must demonstrate that it has taken steps to maximize treatment is important to ensure that the incentives for treatment operators run in favor of investment in the nation's wastewater treatment infrastructure. Under the current EPA rules, bypassing secondary treatment, even if the diverted sewage is subsequently "blended" with fully treated sewage, is allowed only as a last resort if other methods of reducing or managing wet weather flows are not sufficient.

By contrast, EPA's proposed policy is so lacking in specifics and definition of basic terms that it would allow for the routine discharge of inadequately treated sewage virtually any time it rains. To begin with, the policy sets no threshold for the size of rain event below which bypassing will not be allowed. Indeed, there are reports from around the country that some systems currently bypass secondary treatment when there is little or no rainfall. Because it does not limit bypassing to any particular sized rain events, the proposed policy would allow this type of practice to become even more widespread.

In addition, the proposed policy eliminates the current legal requirement that a treatment system conduct a feasibility analysis to demonstrate that bypassing of treatment takes place only as a last resort, after other steps have been taken to ensure the entire treatment and collection system is operating and being managed as it should. The bypass rule does not require anyone to do the impossible, just to provide full treatment whenever it is feasible to do so by reducing the amount of stormwater flowing into the system and regulating or storing flows so that they can be fully treated.

One of the key policy issues is whether the water quality of "blended" effluent is the same as effluent that has received secondary treatment. While monitoring data on the full range of pathogens, toxic chemicals, and other pollutants in blended sewage effluent is still sparse, the data we have confirms what we would expect from an engineering perspective. If the sewage has not undergone biodegradation in the secondary treatment unit, it will contain significantly more of the various constituents that make inadequately treated sewage such a threat to public health: parasites, bacteria, viruses, intestinal worms, toxic chemicals, pharmaceuticals, antibiotics and hormones. It is for this reason that numerous states, public health authorities, and downstream business interests are opposed to EPA's proposed policy. NRDC, "*EPA's Proposed Sewage Dumping Policy: What the Public Thinks.*" (http://www.nrdc.org/media/docs/040219a.pdf).

In response to this assertion, proponents of EPA's proposed policy argue that effluent resulting from "blending" fully treated and barely treated sewage will be required to meet end-of-pipe discharge standards. While a number of proponents of sewage "blending" are seeking to weaken discharge standard requirements to make it easier to bypass secondary treatment and meet end-of-pipe standards, more importantly, even if "blended" sewage meets end-of-pipe discharge limits, it still poses an increased risk to public health, the environment, and downstream economies.

Currently, federal standards exist only for a few pollutants, such as dissolved oxygen, turbidity and acidity. Neither the federal government nor the individual states have established water quality standards to protect the public from getting sick from many of the diseases carried by sewage – infectious hepatitis, meningitis, cryptosporidiosis, giardiasis, etc. The proposed policy would allow treatment plants to meet the few standards that are on the books by dilution of sewage with stormwater and averaging test results, instead of providing effective treatment. In short: the pathogens would not be effectively removed from the wastewater. The result would be an increased risk of waterborne illness, beach closures, contaminated shellfish beds, poisoned drinking water supplies, and degraded aquatic habitat. It is important to recognize that the same argument that proponents of sewage "blending" make today, i.e., that bypassing should not be prohibited when end-of-pipe discharge standards are met, was specifically rejected by the Reagan administration EPA in a rulemaking in1984, 49 Fed. Reg. 37998, 38087 (Sept. 26, 1984), and upheld by the D.C. Circuit in 1987, *NRDC v. EPA,* 822 F.2d 104, 122-26 (D.C. Cir 1987), because of a concern that allowing discharges to bypass treatment would undermine the pollutant-reduction goals of the statute.

Supporters of EPA's proposed policy also suggest that secondary treatment is not necessary because disinfection will kill the pathogens in sewage that make people sick. There are several problems with this argument. Disinfection is not required under the EPA's proposed sewage dumping policy. In other words, sewage treatment plants that do not disinfect – and preliminary EPA data provided to NRDC suggest that many do not – will not be required to do so as a condition of skipping secondary treatment, even though secondary treatment is substantially more effective in removing pathogens than the gravity-based settling process used in primary treatment. Furthermore, even if disinfection were required for "blended" effluent, disinfection does not effectively kill

pathogens in the sewage globule laden wastewater that "blending" produces. Disinfection of the cloudy wastewater produced by "blending" is also likely to create more chlorinated organics, which have been linked with an increase risk of cancer.

Moreover, while much of the attention and concern about EPA's policy has been directed toward the potential for increased exposure to pathogens, the policy would also result in an increase in the downstream discharge of industrial chemicals including toxic organic, metals, and other hazardous materials that biological treatment helps to remove. EPA has established technology standards for industries that discharge to sewage treatment plants. These categorical standards are based upon the concept that the industrial wastewater will receive secondary treatment prior to discharge to fulfill the technological requirements of the Clean Water Act. Since "blended" sewage will not receive full secondary treatment, this basic requirement of the industrial pretreatment program will not be met. Therefore, additional industrial waste controls would be necessary for equivalent human health and environmental protection.

It is important to keep in mind that this is a problem caused by faulty, leaking sewer lines, i.e., water leaking into a sewage system during wet weather. As you would expect, in some places, we are finding that the opposite is occurring in dry weather. That is, raw sewage is leaking out of the collection lines into our surface and ground waters during dry weather. The proposed EPA policy will aggravate this situation by reducing the incentives for communities to identify leaks and fix them.

One would think that, given the dramatic departure from longstanding Clean Water Act wastewater treatment requirements that EPA's proposed policy represents, and the high level of concern such a policy raises amongst the public, EPA would be able to provide answers to key questions such as:

- What is the increased public health risk from acute or long-term illnesses posed by releasing "blended" as opposed to fully treated sewage?

- What are the likely immediate and long-term impacts on aquatic ecosystems of increased loadings of nutrients, pathogens, and toxic constituents of sewage, including damage to fish, shellfish, coral reefs, and other wildlife?

- Will the policy result in an increase of chemical discharges downstream from indirect discharges by industrial users? How much increase is likely and for which constituents of sewage?

- What are the likely increases in human health risk due to the decreased efficacy of disinfection for cloudy effluent? Will there be an increase in the amount of disinfection byproducts in the "blended" waste stream, and, if so, what are the associated health risks?

- What, if any, evaluation has been made of alternative treatment technologies to handle peak flows and their feasibility?

- What will be the increased pollution to our surface waters and ground waters from the leakage of raw sewage out of the municipal collection system during dry weather under this policy?

- What will be the increased costs for filtration and treatment of drinking water sources into which "blended" sewage effluent has been discharged?

EPA, through a grant to the Water Environment Research Foundation, has just begun to do the research to answer many of these questions. The results are not expected to be available until spring of 2007. There is no justification for finalizing this policy before the public has the answers to each of these fundamental questions about the potentially increased exposure to, and risk from, inadequately treated sewage.

NRDC's position is that instead of trying to undermine long-standing Clean Water Act protections, EPA needs to enforce the law consistently across the country to ensure effective treatment for all sewage. The current legal standard is appropriate. Bypassing is authorized only when necessary to prevent harm and there is no feasible alternative. Instead of weakening the current safeguards, federal, state, and local authorities should hold sewer operators to their legal responsibility to provide effective sewage treatment whenever it is feasible to do so. Then, sewer operators will invest in the basic cost-effective system-wide measures that will protect the integrity of the sewer system and allow sewage to be fully treated, such as cleaning out the sewers, reducing infiltration and inflow, improving storage in the collection system, eliminating illicit connections, offloading stormwater from the sewer system, upgrading capacity to provide treatment for the expanded population base, rehabilitating and replacing aging sewer lines, and many more.

That's why NRDC fully supports, and urges every member of the committee to co-sponsor The Save Our Waters From Sewage Act (H.R. 1126). This bi-partisan legislation, introduced by Reps. Shaw, Stupak, Kirk and Pallone would block EPA from finalizing its proposed sewage dumping ("blending") policy; require EPA to implement the existing Clean Water Act rules requiring full sewage treatment under routine operating conditions; and require public notification of discharges of inadequately treated sewage. The public has no trouble understanding that sewage is a public health threat and that diluting it with stormwater does not change that. Members of the public deserve to know when they are swimming in rivers and lakes into which largely untreated sewage has been discharged. This bill will provide the public with access to that information.

In addition, Congress and the Executive Branch need to substantially increase federal funding for wastewater treatment infrastructure and enforcement. Federal funding for wastewater infrastructure received the largest cut of any environmental program in the EPA's proposed budget for fiscal years 2005 and 2006. Funding for wastewater treatment infrastructure maintenance and upgrades is being cut while needs are spiraling out of control. Instead, of slashing funding, the federal government should greatly increase its contribution to water infrastructure needs through a clean water trust fund.

Just as a trust fund exists for highway and airport expenditures, the government should establish a trust fund for clean water. Until a trust fund is in place, funding should be increased substantially for the Clean Water State Revolving Fund, a program with an impressive track record of low-interest loans to localities for clean water projects.

The public strongly supports federal funding to invest in the maintenance and improvement of the nation's water treatment infrastructure. According to a recent poll conducted by the Luntz Research Companies, "an overwhelming majority – 86% – support legislation by the U.S. Congress that would create a long-term, sustainable and reliable trust fund for clean and safe water infrastructure." Luntz found that "[a]mong young and old, male and female, Democrat AND Republican, the demand for clean and safe water is universal. An overwhelming majority of Americans – 91% – agree that **if, as a country, we are willing to invest over $30 billion dollars a year on highways and more than $8 billion a year on our airways, we certainly should be willing to make the necessary investments in our nation's rivers, lakes and oceans.**" (emphasis in original).

Protection of the public's health and the aquatic environment are perhaps the two most fundamental purposes for which Congress enacted the Clean Water Act in 1972. Reducing the amount of raw and inadequately treated sewage discharged into the nation's waters has always been a central part of the nation's strategy to achieve those purposes. The Clean Water Act and EPA's current rules strike the proper balance between ensuring protection of the public whenever possible and recognizing the reality that, in some instances, full treatment of sewage won't be feasible. EPA's proposed policy would upset this balance, remove incentives for long-term investment in wastewater treatment infrastructure, and expose the public and the environment to greater risk of illness and death from waterborne pathogens and toxic chemicals.

EPA should not finalize this misguided and thinly supported reversal of long-standing safeguards for the nation's waters. To ensure this policy is not adopted, Congress should move quickly to enact the Save our Waters from Sewage Act (H.R. 1126) and increase funding for the Clean Water State Revolving Fund.

In 1910, Teddy Roosevelt observed that "[C]ivilized people should be able to dispose of sewage in a better way than putting it in the drinking water." Secondary treatment was first employed in sewage treatment in the U.S. only 6 years later, in 1916. What would Teddy Roosevelt say if he were here today – almost 100 years later – to see the Environmental Protection Agency on the cusp of finalizing a policy that would no longer require even that basic World War I era sewage treatment process to be used to protect our waterways from contamination?

Thank you for inviting me to participate in today's hearing. I would be happy to answer any questions you may have.

Testimony of Rep. Bart Stupak
Before the House Subcommittee on Water Resources
On Wastewater Blending
April 13, 2005

Chairman Duncan, Ranking Member Johnson, thank you for holding this hearing on wastewater blending and thank you for allowing me to come before the Subcommittee to testify on this important issue.

It will be interesting to hear from those who support the EPA's 2003 proposed policy to dump inadequately treated human waste into our waters, a practice the EPA refers to as "blending." I anticipate that they will argue that the "blended" effluent will meet effluent limitations outlined in their discharge permits, that the costs that will be incurred if blending is not allowed to continue will be astronomical, and that blending is a legal, safe and commonly used practice in this country.

For more than 30 years under the Clean Water Act, we have been moving towards achieving improved water quality. Our nation's investment in secondary treatment has been a large factor in the water quality gains that we have achieved over the years. In my view, EPA's proposed sewage bypass policy would turn back the clock on that progress.

And that is what it comes down to – that this "blending" policy, if finalized, would effectively lift the current prohibition on bypassing a crucial second treatment step in treating human waste that will result in more people becoming ill as more pathogens, viruses and parasites enter our waterways and drinking water. It is just that simple. People don't want partially treated human waste in the waters they swim in or drink from.

Those who support the EPA's proposed "blending" policy argue that bypassing secondary treatment will be safe because the final effluent will still meet discharge standards at the end of the pipe.

Even if "blended" sewage meets end-of-pipe discharge limits, it still poses an increased risk to public health and the environment. Currently, federal standards exist only for a few pollutants. Neither the federal government nor the individual states have established water quality standards to protect the public from getting sick from all the diseases carried by the pathogens in sewage. The proposed policy would allow treatment plants to meet the few standards that are on the books by massive dilution of sewage with storm water, instead of providing effective treatment.

In 1984, the Reagan administration considered and rejected the very same argument that proponents of sewage "blending" make today, that is, that diluting the sewage to meet discharge standards at the end of the pipe is sufficient to protect public health. Nothing has changed to justify a reversal of that previous decision.

The argument that the bypass rule doesn't apply to secondary treatment of sewage doesn't hold a lot of weight because EPA regulations define a bypass as "the intentional diversion of waste streams from any portion of a treatment facility," and secondary treatment of human waste is clearly a part of the treatment facility. In fact, secondary treatment is the core of the sewage treatment process.

Further, current federal regulation says that the general prohibition on bypassing secondary treatment, has an exception for rare situations where a treatment facility is likely to be damaged, or the public will be harmed, and the facility can show that it is not feasible to upgrade or repair the treatment system to accommodate and fully treat heavy flows.

Facilities should be required to do that feasibility analysis, on a case-by-case basis, rather than adopt a general one-size-fits-all exemption from the bypass prohibition, which is what EPA is proposing.

Each facility should have to fully justify why it can't provide secondary treatment, rather than abandoning it across the board. If there is a valid reason why facilities should not fully treat human waste and maintain and upgrade their systems then I would like to hear it.

To give you some kind of an understanding of sewage dumping in my region of the country, we are seeing cities like Milwaukee, Cleveland, Toronto, Chicago and others that are dumping billions of gallons of partially treated sewage into our Great Lakes waterways each year.

The releases are frequent and under the EPA's new proposal they would become more so. In 2004 (according to preliminary data) Detroit released wastewater which contained some form of sewage 400 times! In 2003, the Michigan Department of Environmental Quality reported that individual state lakes and beaches had to be closed for at least one day on 136 occasions. Lake Michigan has more than 1,400 beach closings per year.

And Michigan's recreational economy, which revolves around water-related activities, is being threatened by the release of inadequately treated sewage. (Michigan Anglers alone spend more than $800 million each year on such activities.)

People in Milwaukee know the effects of sewage dumping first hand. In 1993, a deadly outbreak of the waterborne illness, *cryptosporidiosis*, occurred near Milwaukee from sewage contamination of the drinking water. This contamination killed over 100 people and sickened over 400,000. The parasite that cause this illness, *Cryptosporidium*, is not effectively removed when the secondary treatment process is bypassed, so contamination of drinking water sources is more likely to occur under the EPA's "blending" proposal.

It is argued that wastewater "blending" is considered "common practice" by some, but that doesn't make it right or that it should be allowed to continue. In fact, we live in a country that has the most efficient and advanced wastewater systems in the world, people shouldn't have to choose between partially treated sewage and untreated sewage being dumped in their public waterways.

That is why Congressman Pallone, Congressman Shaw and I and 132 of our Democratic and Republican colleagues sent a letter to the EPA last month urging them not to proceed with this "blending" proposal that would allow routine discharges of inadequately treated sewage, including human waste, into our nation's lakes, rivers, and oceans during rain events.

Then, on March 3rd, Congressman Shaw, Congressman Pallone, Congressman Kirk, and I were joined by Democratic and Republican colleagues, representing states from coast to coast in introducing the *Save Our Waters from Sewage Act*, H.R. 1126. This bill already has 77 bi-partisan co-sponsors.

Our legislation would prevent the EPA from finalizing its "blending" policy proposal and would require public notification of discharges of inadequately treated sewage.

Our bill will protect our drinking water resources from contamination, our tourism and commercial fishing industry, our Great Lakes ecosystem and our waterways throughout our nation. Congress needs to act now, to pass my bi-partisan bill.

Congress should also substantially increase wastewater infrastructure funding. (The funding gap is about $20 billion per year and growing as our wastewater and drinking water systems deteriorate.)

The President's budget slashes funding for the Clean Water revolving loan funds, which help to improve wastewater treatment facilities, by $361 million – a 33 percent cut (from $1.1 billion to $730 million), meaning that fewer necessary upgrades would be possible, and more sewage would be dumped into our waterways.

This cut comes despite the fact that 45 percent of the nation's lakes and 40 percent of the nation's streams remain too polluted for fishing or swimming. The Bush budget also essentially freezes funding for states' Safe Drinking Water revolving loan funds at this year's enacted level – calling for $850 million for Fiscal 2006.

Although funding will continue to present a challenge, there are alternatives to "blending" that can be used to protect public health by providing full secondary treatment for sewage. These measures include cleaning out the sewer system, lining leaky pipes, reducing storm water flows into sewer pipes, and improving storage in the piping system.

Again, I can't stress enough how critical this funding is. It doesn't make sense to cut it. Water infrastructure is so basic to our public health and safety – and to our economy.

TESTIMONY OF

ALAN H. VICORY, JR.
EXECUTIVE DIRECTOR AND CHIEF ENGINEER
OHIO RIVER VALLEY WATER SANITATION COMMISSION
(ORSANCO)
APRIL 13, 2005
SUBMITTED TO THE

SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

IN

WASHINGTON, D.C.

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Testimony of Alan H. Vicory, Jr.
Executive Director and Chief Engineer
Ohio River Valley Water Sanitation Commission (ORSANCO)

Good morning, Chairman Duncan, Congresswoman Johnson, and members of the Committee. My name is Alan Vicory. I serve as the Executive Director and Chief Engineer for the Ohio River Valley Water Sanitation Commission, better known as ORSANCO. I am pleased to be here today to discuss the topic of wastewater blending from a regulator's perspective. So that you can appreciate my point of view on blending, I first want to describe ORSANCO for you.

ORSANCO is an interstate Compact established Commission, created in 1948 to abate interstate water pollution. Signatories to the compact are Illinois, Indiana, Kentucky, New York, Ohio, Pennsylvania, Virginia and West Virginia. ORSANCO's Board of Commissioners are appointed by the respective state governors. In addition, several commissioners are appointed by the President to represent the perspective and interests of the United States.

The Compact, which has been adopted in each of the eight states' laws, and was approved by the 74th Congress, grants the Commission certain powers. These powers include the promulgation of standards of treatment for discharges to interstate streams deemed necessary and appropriate to achieve the Compact's objectives.

Mr. Chairman, and members of the Committee, I am grateful for this Committee's unwavering attention to this nation's need for clean streams, and specifically, its interest in the topic of today's hearing on blending.

Blending is a concept that is not new to ORSANCO. In 1997, this Commission, after due notice and public hearing, adopted in its regulatory requirements for discharges to the Ohio River which allow for blending at municipal wastewater treatment plants serving combined sewer areas that have primary treatment capacity in excess of secondary treatment capacity. Our regulations focus on maximizing the treatment of wet weather flows from combined sewer

systems and reducing the frequency and duration of sewer overflow events. Blending facilities in ORSANCO's jurisdiction must:

1. be properly maintained;
2. provide maximum flow through biological treatment units; and
3. meet Ohio River water quality standards.

I have to emphasize the importance of blended discharges meeting water quality standards. Water quality standards are a "backstop" that assures protection of public health and the environment.

Having served as ORSANCO's Chief Operating Officer for 18 years, I recall the dialogue leading to the adoption of our blending requirements. There was strong consensus among the Commissioners. The prevailing feeling was that our blending policy, simply stated, promotes the maximum amount of treatment and disinfection to the maximum amount of flows. Otherwise, as our blending policy recognizes, untreated sewage could be released and water quality would suffer.

Let me point out that ORSANCO takes its regulatory mission and authorities seriously. ORSANCO adopted secondary treatment requirements in 1970, two years before passage of the 1972 Clean Water Act, and played an important role in advocating this requirement nationally. Decades earlier, ORSANCO was instrumental in the science underpinning today's standards for pathogens in surface waters. That said, ORSANCO, being a 27-member Commission comprising representatives from eight state environmental protection agencies, the U.S. Environmental Protection Agency, water and wastewater utilities, industry, law, environmental consulting, and other perspectives, tends to be pragmatic and broad-based in its thinking.

Our blending policy speaks to this, I believe. In the case of the Ohio River, without our blending policy, more untreated overflows would occur and the water quality impacts of wet weather would be more damaging. It would be extremely difficult – if not impossible – to effectively manage the wide variety of peak wet weather events in

communities along the Ohio River if blending were not an available option.

ORSANCO does not view blending as merely an expedient substitute for proper management of wastewater infrastructure or of wet weather flows. Rather, blending is one tool in the "tool box." Other tools also need to be, and are being, applied. These include aggressive collection system management, treatment plant expansions and upgrades, and the use of storage and/or high-rate treatment for blended flows. In fact, communities on the Ohio River, like Cincinnati, are installing state-of-the-art technologies to enhance their ability to remove solids and pathogens during blending events.

I further wish to say that, in my assessment, blending, while deemed by ORSANCO as appropriate policy that serves the interests of reducing environmental and public health risks on the Ohio River, may not be wise in all places and under all conditions. Important site-specific considerations should come into play. These include:

- What is the size of the receiving stream?
- Are there drinking water intakes in the downstream vicinity?
- Are people swimming in the receiving water during and immediately after the storm or wet weather event?
- What are the characteristics of the blended discharge versus the alternative, namely the release of untreated sewage?
- What potential enhanced technologies are available for the blended wastewater flow; can they be applied in a particular case; and will they meaningfully enhance the receiving water quality?

Again, these are only some of the questions that should be – and in fact today are – being evaluated where blending is used.

I want to speak to what I understand is a concern that a blending policy, if adopted nationally, would invite some wastewater agencies

to exploit it. It has been my personal experience, in interacting with numerous wastewater utilities over the years, that these professionals dedicated to the mission of capturing and reclaiming wastewater have no interest other than doing the best job possible given the physical and financial assets in their communities. I think that properly crafted wastewater discharge permits, combined with aggressive but fair enforcement, represent wastewater "best practices" for regulatory authorities like mine.

Members of this distinguished and respected Subcommittee, all of us share and subscribe to the goals of the Clean Water Act – the elimination of sources of water pollution and protection of America's water quality. We should strive to treat as much wastewater as we possibly can to make these goals a reality. Blending, when practiced with thought, planning, and a careful consideration of human health and environmental implications in a particular case, can be a protective, yet highly effective and efficient, wastewater management tool.

Please accept my thanks and appreciation for graciously granting me the opportunity to testify before your Subcommittee today.

AMERICAN PUBLIC WORKS ASSOCIATION

Your Comprehensive Public Works Resource

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April 12, 2005

Rep. John J. Duncan, Jr.
Chairman, Water Resources Subcommittee
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Duncan:

The American Public Works Association (APWA) represents the interests of over 27,000 public works officials, forty percent of whom are responsible for the local administration of water pollution control systems. We strongly support the Environmental Protection Agency's (EPA) proposed policy regarding the *National Pollution Discharge Elimination System (NPDES) Permit Requirements for Municipal Wastewater Treatment Discharges During Wet Weather Conditions (Policy)* (68 Fed. Reg. 63042) and have encouraged EPA to finalize and establish a consistent policy on blending.

Blending offers a sound and acceptable alternative to discharges of untreated sewage into our country's waterways by ensuring that peak flows receive proper treatment.

Blending allows communities to meet environmental goals, efficiently utilizing scarce resources. Local communities have limited financial resources that must be used to support meaningful, environmentally beneficial water protection efforts. APWA members are currently implementing new EPA regulations and reporting requirements such as the National Pollutant Discharge Elimination System (NPDES), upgrading aging water and wastewater infrastructure systems, and implementing new security measures and standards to protect against terrorism. These are all new requirements that come on top of sustaining routine, basic services for the public good. Where local agencies will find funds for this growing list of priorities is a serious issue. Adding new limitations and restrictions on how wastewater systems are to handle overflow issues would only add to the long list of requirements POTWs face without a comparable environmental benefit.

The public works community is committed to water quality protection and we urge EPA to finalize a national blending policy quickly.

Thank you for your attention to this important matter.

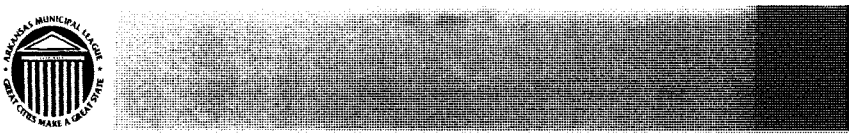
Sincerely,

Peter B. King

Peter B. King
Executive Director

PRESIDENT
Thomas W. Trice
Deputy City Manager
City of Royal Oak, Michigan

EXECUTIVE DIRECTOR
Peter B. King



April 12, 2005

VIA E-MAIL

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

P.O. Box 38 • North Little Rock, AR • 72115-0038
P: 501-374-3484 • F: 501-374-0541 • www.arml.org

Re: April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of the Arkansas Municipal League, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We understand those opposing blending assert that it is a means to avoid collection system infrastructure improvements. That is simply not true. Regardless of whether or not blending is used to manage wet weather flows at municipal facilities, there are ongoing collection system needs that continue to be addressed. Due to the nature of infiltration and inflow problems, maintenance and replacement of collection systems may reduce peak flows, but it is not expected to completely eliminate these flows. "Supersizing" municipal treatment plants to force all peak flows through a biological process would have staggering costs (well in excess of several hundred million dollars in our State) and reduce municipal capabilities to address collection system improvements. Particularly in light of the elimination of the Clean Water Act grant program, Congress needs to be sensitive to the fact that limited municipal funds would better be spent on addressing real infrastructure needs.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum

Mayor Gene Yarbrough, President, Star City • Mayor Terry Coberly, First Vice President, Bentonville • Mayor Frank Fogleman, Vice President, District 1, Marion • Alderman Kenny Elliott, Vice President, District 2, Jacksonville • Mayor Jerre Van Hoose, Vice President, District 3, Springdale • Mayor James Murry Sr., Vice President, District 4, Wabbaseka • Don Zimmerman, Executive Director

wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact Mr. Reggie Corbitt at (501) 688-1404 if you need further information regarding this topic.

Sincerely,

Don A. Zimmerman
Executive Director

cc: Honorable John Boozman, U.S. Congressman, Arkansas

Arkansas Water Environment Association

April 8, 2005

VIA E-MAIL

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

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Dear Representative Duncan,

On behalf of the Arkansas Water Environment Association, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We understand those opposing blending assert that it is a means to avoid collection system infrastructure improvements. That is simply not true. Regardless of whether or not blending is used to manage wet weather flows at municipal facilities, there are ongoing collection system needs that continue to be addressed. Due to the nature of infiltration and inflow problems, maintenance and replacement of collection systems may reduce peak flows, but it is not expected to completely eliminate these flows. "Supersizing" municipal treatment plants to force all peak flows through a biological process would have staggering costs (well in excess of several hundred million dollars in our State) and reduce municipal capabilities to address collection system improvements. Particularly in light of the elimination of the Clean Water Act grant program, Congress needs to be sensitive to the fact that limited municipal funds would better be spent on addressing real infrastructure needs.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum

wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact Reggie A. Corbitt, P.E. at (501) 688-1404 if you need further information regarding this topic.

Sincerely,

Arkansas Water Environment Association

Roy D. Reed

Roy Reed, Chair

Association of
Metropolitan
Sewerage Agencies

President
William B. Schatz
General Counsel
Northeast Ohio Regional
Sewer District
Cleveland, OH

Vice President
Donnie R. Wheeler
General Manager
Hampton Roads Sanitation
District
Virginia Beach, VA

Treasurer
Dick Champion, Jr.
Director
Water Pollution Control
Department
Independence, MO

Secretary
Christopher M. Westhoff
Assistant City Attorney
Public Works General
Counsel
City of Los Angeles
Los Angeles, CA

Executive Director
Ken Kirk

April 8, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Via Electronic Mail

RE: **LETTER AND ACCOMPANYING DOCUMENTS FOR THE APRIL 13, 2005 WASTEWATER BLENDING HEARING RECORD**

Dear Chairman Duncan,

On behalf of the Association of Metropolitan Sewerage Agencies (AMSA)[1], I thank you for holding the April 13, 2005 hearing on wastewater blending. Blending is a critical wet weather management practice for our member communities and has been an U.S. Environmental Protection Agency (EPA) approved practice for over three decades. Blending helps ensure that municipalities can provide the maximum treatment possible to unpredictable, exceptionally heavy wet weather flows, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses as well as collection system and combined sewer overflows.

There has been significant discussion in Congress and the media over the practice of wastewater blending since the EPA proposed a November 2003 policy on this issue. Some activist groups are mischaracterizing the public health consequences of blending. The activists' public health claims rely largely on the November 2003 *Katonak-Rose Report on Public Health Risks Associated with Wastewater Blending* – submitted to EPA as an attachment to The Natural Resources Defense Council's comments opposing the policy. To help set the record straight, attached is the March 7, 2005 *Technical Review of the Katonak-Rose Report* by Adrienne Nemura, P.E. This *Technical Review*

[1] As of May 2, 2005, AMSA's name will change to the National Association of Clean Water Agencies or NACWA.

1816 Jefferson Place, NW, Washington, DC 20036-2505 • 202.833.2672 • 202.833.4657 FAX
info@amsa-cleanwater.org • http://www.amsa-cleanwater.org

carefully analyzes the significant assumptions contained in the *Katonak-Rose Report*, which result in the *Report's* exaggerated and over-generalized assessment of the basic health risk associated with blending.

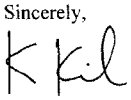
Also attached are the following:

- A January 21, 2005 letter sent to EPA and Congress signed by nearly 30 municipal organizations expressing their strong support for finalizing the Agency's proposed policy on blending.
- A Fact/Fiction Piece that addresses the many mischaracterizations of issues associated with the practice of blending.
- AMSA's March 16, 2005 brief in the *Pennsylvania Municipal Authorities Association v. EPA* case appeal before The U.S. Court of Appeals for the District of Columbia Circuit, which addresses the legal questions that have been raised regarding blending.

We commend you on your efforts on this important issue. We welcome your support of finalizing EPA's policy on wastewater blending, which bolsters communities' efforts to provide maximum treatment to wet weather flows and increases publicly available information on blending.

Please do not hesitate to contact me at 202/833-4653 if you need further information regarding this topic.

Sincerely,



Ken Kirk
Executive Director

THE FACTS . . .
EPA's Proposed Blending Policy

amsa

FICTION: Blending is harmful to human health.

FACT

Blending is used to protect public health. Blending provides municipal public servants a mechanism to ensure that peak storm flows receive the maximum treatment possible. Treatment plants also ***disinfect the wastewater to kill harmful pathogens before the treated wastewater is discharged in order to protect the nation's waterways.*** The alternative to blending is a raw sewage discharge ***without any treatment.*** EPA's proposed policy furthers public health.

FICTION: Many people are exposed to blended wastewater that is discharged into the nation's waters. People will be "swimming in sewage".

FACT

The nation's municipal public servants use blending for short-term discharges during periods of heavy rain or snowmelt, precisely when, and in locations where, people ***are not*** swimming or recreating. Therefore, ***people are not being exposed to blended effluent.*** Furthermore, blended effluent must ***fully meet Clean Water Act permit requirements*** — this means that the most stringent federal and state-mandated water quality standards are being met.

FICTION: EPA is "rolling back" an environmental safeguard.

FACT

This is a purposeful mischaracterization. Blending has been an EPA-approved practice for more than 30 years. This policy clears up confusion resulting from inconsistent approaches to blending across the country. EPA's proposal clarifies how permitting authorities should assess blending at public wastewater treatment utilities and captures the "best practices" in use by state agencies and public treatment utilities today.

FICTION: EPA's proposal "relaxes restrictions" on discharging inadequately treated sewage into waterways during rain events.

FACT

EPA's proposal ***DOES NOT change any regulations***. In fact, EPA's proposed blending guidance clearly outlines additional considerations that permitting authorities must use to assess utilities that blend. Significantly, ***utilities that blend must, at all times, meet EPA's current technology-based "secondary treatment" standard and any additional water quality-based requirements.***

LEARN MORE → → →

THE FACTS . . .
EPA's Proposed Blending Policy

amsa

FICTION: Allowing polluters to discharge inadequately treated sewage into our nation's waters will have adverse, long-term environmental consequences.

FACT: Blending is a water quality safeguard. Without blending to protect the treatment plant's biological/secondary treatment units from "washing out" (effectively shutting the plant down), municipalities would be forced to send untreated wastewater into the nation's waterways. A prohibition on blending would also lead to an increase in sewage backups into people's homes. ***As such, prohibiting blending would lead to immediate and adverse water quality and public health impacts.***

FICTION: It is simple for municipalities to add treatment or storage capacity to ensure secondary treatment of all peak excess flow water.

FACT: Unfortunately, this solution is not simple at all. Building huge secondary treatment units or storage facilities is often prohibitively costly and/or infeasible. Biological/secondary treatment units, which rely on living organisms, cannot simply be turned on and off to accept peak flows. Similarly, building additional storage facilities often requires the purchase of real estate that is either unavailable or too costly. AMSA estimates that a national blending prohibition would cost municipalities approximately $200 billion — a huge sum given the fact that blending already protects the public health and the environment.

amsa

AMSA represents the interests of the nation's wastewater treatment agencies. AMSA members are true environmental practitioners that serve the majority of the sewered population in the United States and collectively treat and reclaim more than 18 billion gallons of wastewater each day. AMSA maintains a key role in the development of environmental legislation, and works closely with federal regulatory agencies in the implementation of sound environmental programs.

AMSA ♦ 1816 Jefferson Place, NW ♦ Washington, DC 20036-2505 ♦ 202/833-2672 ♦ www.amsa-cleanwater.org

aomwa
association of ohio metropolitan wastewater agencies

April 11, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Via Electronic Mail

Re: **For the April 13, 2005 Wastewater Blending Hearing Record**

Dear Representative Duncan,

On behalf of the AOMWA, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact Lisa Hollander at (216) 881-6600 if you need further information regarding this topic.

Sincerely,

Michael L. McGlinchy

Michael L. McGlinchy, P.E.
President

C: Hon. Rep. Steven C. LaTourette
Hon. Rep. Robert W. Ney

c/o Northeast Ohio Regional Sewer District
3900 Euclid Ave.
Cleveland, OH 44115
(216) 881-6600

California Water Environment Association
Protecting our water environment through education and training.
7677 Oakport Street, Suite 525
Oakland, CA 94621

April 8, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-379 Rayburn House Office Building
Washington, D.C. 20515

Via Electronic Mail

Re: For the April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of the California Water Environment Association, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact Kathy Suter, CWEA's President (as of April 15, 2005) at ksuter@sbsa.org if you need further information regarding this topic.

Sincerely,

Steven Agor, P.E.
CWEA President 2004-05

Cc: CWEA Board of Directors

Central States Water Environment Association, Inc.

Executive Director
ERIC R. LECUYER
3809 Shenandoah Drive
Crystal Lake, IL 60012
815 / 954-2714
Fax: 815 / 356-3847
erlec@prodigy.net

Water Environment Federation®
Preserving & Enhancing the Global Water Environment
MEMBER ASSOCIATION

www.cswea.org

Illinois – Minnesota – Wisconsin

Administrative Year 2004-2005

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Illinois Section Trustee '06
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Wisconsin Section Trustee '05
THOMAS KRUEGER
Grafton Water and Wastewater Utility, WI
262 / 375-5330
tkrueger@village.grafton.wi.us

April 12, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-379 Rayburn House Office Building
Washington, D.C. 20515

Via Electronic Mail

Re: For the April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of Central States Water Environment Association, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,

James P. Roth
President, CSWEA

Kahler Hotel

Local Arrangements Chair
Cammy Johnson
MCES
651/ 602-4913
Camille.johnson@metc.state.mn.us

78th Annual Meeting
May 22-25, 2005

Rochester MN
Convention & Visitors Bureau
City...Simplified

Mayo Civic Center

Technical Program Chair
Dave Raby
Howard R. Green Co.
651/ 644-4389
draby@hrgreen.com

CARNEYS POINT TOWNSHIP
SEWERAGE AUTHORITY
303 HARDING HIGHWAY
CARNEYS POINT, NJ 08069
TEL. (856) 299-5210
FAX (856) 299-6921
EMAIL cpsa@bee.net

April 12, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-379 Rayburn House Office Building
Washington, D.C. 20515

Via Electronic Mail

Re: For the April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

The Carneys Point Township Sewerage Authority owns and operates a wastewater collection system and advanced wastewater treatment plant that serves the Township of Carneys Point and portions of Penns Grove and Oldham Townships in Salem County, New Jersey. On behalf of the Authority I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act.

As you know the blending issue has been debated for several years with groups opposed to blending presenting misleading information about what blending is and how it works. Opposing groups have offered a number of specious arguments including the suggestion that blending violates the prohibition on bypassing and will result in the release of raw sewage. It has also been suggested that blending is used as a means to avoid collection system infrastructure improvements. Nothing could be further from the truth. We offer following comments with regard to these arguments.

In practice, blending is a critical wet weather management tool which can provide the maximum clean water treatment possible to exceptionally heavy rains, snow melt and flooding, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

The premise that blending is used as a means to avoid needed collection system infrastructure improvements flies in the face of logic. In fact it is but one tool of many that municipalities must use to meet the requirements of the Clean Water Act and to fulfill our mission of protecting the environment and the public health. Municipalities fully understand that their wastewater collection and treatment infrastructure is their most valuable infrastructure asset. That it must be carefully maintained and constantly improved is clearly understood.

Under ideal circumstances a sanitary collection system should be completely water tight and would only convey sanitary sewage to the treatment plant. Wastewater treatment plants would only receive and treat sewage in volumes and at strengths that were easily predictable. Unfortunately, we in the wastewater treatment industry must perform our work in the real world where circumstances are not so perfect. In the real world, decades old sanitary collection systems were often built using construction methods and piping technologies that are not as resistant to infiltration and inflow as those used today. Rivers flood, storm drainage systems are not always capable of carrying away heavy rainfalls, streets flood, basements flood and property owners seek to empty their basements in the most convenient way, often into the wastewater collection system. Each of these problems adversely affects wet weather flows.

The costs associated with remediating these problems, largely borne by local municipalities is staggering. Yet progress is being made as sewers are repaired and replaced, storm drainage systems are improved, flood control projects reduce the incidence and severity of flooding and residents are educated as to their responsibilities with regard to wastewater discharges. These efforts must never cease. Both municipalities and sewage authorities will continue to spend significant funds on projects designed to mitigate the problem of extraneous flows entering the collection system. Nevertheless the fact remains that funding resources are finite and these measures alone will never completely eliminate extraneous flows from sewage systems. Municipalities must be allowed to use innovative technologies and management practices, including blending, to fulfill our mission of protecting the water environment.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,

Paul Reed

Paul Reed,
Chairman

C: Transmitted Via Post

CITY OF CHEBOYGAN

P.o. Box 39 • 403 North Huron. Cheboygan, Michigan 49721 . 231-627-9931

www.cheboygan.org • TDD: 231-597-0315 • FaxPhone: 231-627-6351 • *Department of Public Safety:* 231-627-4321 • *Crime Stoppers: 1-800-465-STOP*

April 12, 2005

The Honorable John J. Duncan" Jr.
Chairman, Subcommittee on Water Resources & Environment Committee on Transportation and Infrastructure U.S. House of Representatives
B-379 Rayburn House Office Building Washington, D.C. 20515

Via** Electronic **Mail [Jon. Pawlow@mail.house.gov]

Re: For the April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of The City of Cheboygan, I thank you for holding the April!3, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our wastewater treatment facility. With blending, we can provide the maximum sewage treatment possible in response to exceptionally heavy rains and snow melt, while still meeting permit limits. The permit limits are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

A prohibition of blending will result in the need for extremely expensive facility upgrades that will not result in any meaningful improvement to water quality or
protection of the public health.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

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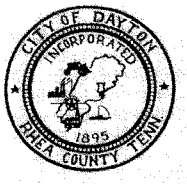
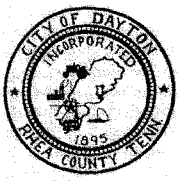
~ '.'.'z,v..l.
Gary G~ ood
Superintendent of Water & Sewer The City of Cheboygan

MISSION STATEMENT



City of Dayton

P. O. BOX 226, DAYTON, TENNESSEE 37321
423/775-1817 FAX 423/775-8404



April 7, 2005

VIA E-MAIL

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Re: April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan:

On behalf of the City of Dayton Wastewater Treatment Plant, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for consistently treating wastewater flows to meet required discharge limits during peak wet weather condition. With blending, we provide the maximum clean water treatment possible during and after unpredictable, exceptionally heavy rains and/or snow melt, while still meeting permit limits -- which are set to protect public health and the environment. Blending protects our wastewater plant and those of other utilities in Tennessee by preventing washout of sensitive biological systems, and protects public health by allowing us to route peak wet weather flows to the wastewater treatment works preventing sewer backups into homes and businesses and collection system overflows.

We understand those opposing blending assert that it is a means to avoid collection system infrastructure improvements. That is simply not true. Regardless of whether or not blending is used to manage wet weather flows at municipal facilities, there are ongoing collection system needs that continue to be addressed. Due to the nature of infiltration and inflow problems, maintenance and replacement of collection systems may reduce peak flows, but it is not expected to completely eliminate these flows. "Supersizing" municipal treatment plants to force all peak flows through a biological process would have staggering costs (well in excess of several hundred million dollars in our State) and reduce municipal capabilities to address collection system improvements. Particularly in light of the elimination of the Clean Water Act grant program, Congress needs to be sensitive to the fact that limited municipal funds would better be spent on addressing real infrastructure needs.

Samuel L. Swafford, Mayor
Chris Conner, Councilman
David T. Best, City Recorder
Wendell Brown, Vice-Mayor
Bob Vincent, Councilman
Susan E. Arnold, City Attorney
Jim Barnes, Councilman
V. Frank Welch, City Manager
Bill McPheeters, City Judge

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,

Frank Welch

Frank Welch
City Manager
City of Dayton

CITY OF DAYTON WASTEWATER TREATMENT PLANT
P.O. BOX 226
DAYTON, TENNESSEE 37321

April 7, 2005

VIA E-MAIL

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Re: April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of The City of Dayton Wastewater Treatment Plant, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for consistently treating wastewater flows to meet required discharge limits during peak wet weather condition. With blending, we provide the maximum clean water treatment possible during and after unpredictable, exceptionally heavy rains and/or snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects our wastewater plant and those of other utilities in Tennessee by preventing washout of sensitive biological systems, and protects public health by allowing us to route peak wet weather flows to the wastewater treatment works preventing sewer backups into homes and businesses and collection system overflows.

We understand those opposing blending assert that it is a means to avoid collection system infrastructure improvements. That is simply not true. Regardless of whether or not blending is used to manage wet weather flows at municipal facilities, there are ongoing collection system needs that continue to be addressed. Due to the nature of infiltration and inflow problems, maintenance and replacement of collection systems may reduce peak flows, but it is not expected to completely eliminate these flows. "Supersizing" municipal treatment plants to force all peak flows through a biological process would have staggering costs (well in excess of several hundred million dollars in our State) and reduce municipal capabilities to address collection system improvements. Particularly in light of the elimination of the Clean Water Act grant program, Congress needs to be sensitive to the fact that limited municipal funds would better be spent on addressing real infrastructure needs.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact Glenn Fraley at 423/775-8409 if you need further information regarding this topic.

Sincerely,

Glenn A. Fraley, Superintendent
City of Dayton Wastewater Treatment Plant

CITY OF DETROIT
WATER AND SEWERAGE DEPARTMENT
OFFICE OF THE DIRECTOR

735 RANDOLPH STREET
DETROIT, MICHIGAN 48226-2830

April 8, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
United States House of Representatives
B-376 Rayburn House Office Building
Washington, D.C. 20515

Dear Representative Duncan:

Regarding: April 13, 2005 Hearing on Wastewater Blending

On behalf of the Detroit Water and Sewerage Department and its 76 suburban customer communities, I would like to express appreciation for your willingness to hold a hearing on the proposed policy for wet weather wastewater blending under the Clean Water Act. Wet weather blending is used by several southeast Michigan treatment facilities to provide sewage treatment during extreme wet weather periods without adverse impacts to the public health, or the environment. Specifically, Michigan's NPDES permits require that the facilities utilizing blending meet all effluent discharge limits, and that the practice be limited to infrequent large rain events and heavy snow melt periods when the capacity of treatment facilities is exceeded.

Blending prevents the washout of sensitive environmental organisms which are used in the treatment process and which, if lost, could seriously impair the capability of the facility to provide effective treatment after the wet weather event ends. Similarly, the practice minimizes the potential for sewer back-ups in homes and businesses throughout the service area. In Michigan, all flows are fully disinfected to ensure that the public health is protected consistent with NPDES permit requirements.

We commend you on your effort to undertake a review of the wet weather blending issue, and would welcome your support for the issuance of a national policy by U.S. EPA which would allow the practice to continue. Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,

Victor M. Mercado
Director

cc: Mayor Kwame M. Kilpatrick
Representative John Conyers, Jr.
Representative John D. Dingell
Representative Carolyn Cheeks Kilpatrick
Representative Sander M. Levin
Representative Joseph K. Knollenberg
Representative Candice S. Miller
Representative Vernon J. Ehlers
Representative Peter Hoekstra
Representative Dale E. Kildee
Representative Thaddeus G. McCotter
Suburban Customer Communities
Alexandra DaPolito Dunn, AMSA

FACT SHEET
WET WEATHER BLENDING

This document provides a summary of the wet weather flow blending issue which is currently being debated at the national level, and which is also the subject of proposed EPA policy.

BACKGROUND

"Wet weather blending" is a practice used by some municipal wastewater treatment plants whereby a portion of the influent waste stream is diverted around some treatment facilities during extreme wet weather events when flow rates exceed the capacity of the equipment. The flow diversion prevents a washout of the microorganisms which are used to provide secondary treatment. If these organisms are lost, this could result in an impairment of the facility's treatment capability after the wet weather event ends. All flows are disinfected prior to discharge, and the treatment plant must still achieve its NPDES permit effluent limits.

In Michigan, the Wayne County Downriver Plant and several other municipalities utilize wet weather blending to respond to peak wet weather flows, and NPDES permits have been issued by MDEQ to authorize the practice. However, blending has been prohibited by some of EPA's regional offices and a lawsuit has been filed against EPA seeking a court order authorizing wet weather blending. After the lawsuit was filed, U.S. EPA published a draft policy on wet weather flow blending in November, 2003 which proposes to allow blending provided that certain conditions are met. These conditions include the requirement that secondary effluent limits be met, and that all existing facilities be fully utilized consistent with good engineering practices.

RESPONSES TO THE NOVEMBER, 2003 DRAFT POLICY

EPA's draft policy triggered thousands of comments from municipalities, state agencies, environmental groups, and other stakeholders. DWSD submitted a letter to EPA expressing support for a continuance of wet weather blending with specific recommendations on minor modifications to EPA's proposed terms and conditions. Comments in support of blending were also submitted by Wayne County, Flint, and Grand Rapids. MDEQ's comment letter suggested that blending be limited to wet weather events, and proposed that a 25 year – 24 hour design storm be adopted as a national criteria.

Environmental groups have criticized the proposed blending policy as a major political issue which undermines the goals of the Clean Water Act, and have urged senators and congressmen to adopt legislation to prohibit the practice. Substantial media coverage has been generated on wet weather blending, including front page articles in the Detroit News and Free Press.

An MSU professor has released a report on potential environmental impacts associated with wet weather blending based on an evaluation of a few blended discharges from Milwaukee's wastewater plant. The report concludes that there is a potential for an increase in the quantity of pathogens, parasites and viruses, and asserts that this could be a public health problem for recreational users.

Substantial support for wet weather blending has been forthcoming from a coalition of over 20 national and state organizations including the U.S. Conference of Mayors, the National League of Cities, the National Association of Towns and Townships, the Association of Metropolitan Sewerage Agencies, and the Water Environment Federation. The groups have argued that full secondary treatment of all wet weather flows is unnecessary, costly, and overly burdensome to public utilities since all effluent limits are met even when blending is practiced. Furthermore, blended discharges typically occur when discharges from combined sewer overflows are also ongoing and CSO discharges receive no secondary treatment. There are no NPDES permit effluent limits for parasites and viruses, and the public health threat is deemed to be minimal due to the limited amount of recreational activity during wet weather events.

CURRENT STATUS

On March 3, Michigan Representative Bart Stupak introduced a bill in Congress entitled the "Save our Waters from Sewage Act of 2005" (H.R. 1126) which proposes to prohibit municipal wastewater treatment plants from bypassing wet weather flows. As currently drafted, however, the bill would continue to allow bypasses if they are unavoidable to prevent loss of life, personal injury, or severe property damage; if there are no feasible alternatives including use of auxiliary treatment facilities and storage of flows; if notice is provided as to the bypass; and if secondary treatment effluent limits are met. A hearing on wet weather blending will be held on April 13, 2005 by the House Subcommittee on Water Resources and Environment.

The lawsuit against EPA is still ongoing in the federal court system, but EPA has asserted that the issue is not ripe for a decision since no "final action" has yet been taken by the agency. EPA is continuing to review the comments it received on the November, 2003 draft policy, and has not indicated when the agency will move forward with a decision on the issue.

City of Hohenwald
118 West Linden Avenue
Hohenwald, Tennessee 38462
931-796-2231
FAX 931-796-6055

April 7, 2005

VIA E-MAIL

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Re: April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of the City of Hohenwald, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for consistently treating wastewater flows to meet required discharge limits during peak wet weather condition. With blending, we provide the maximum clean water treatment possible during and after unpredictable, exceptionally heavy rains and/or snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects our wastewater plant and those of other utilities in Tennessee by preventing washout of sensitive biological systems, and protects public health by allowing us to route peak wet weather flows to the wastewater treatment works preventing sewer backups into homes and businesses and collection system overflows.

We understand those opposing blending assert that it is a means to avoid collection system infrastructure improvements. That is simply not true. Regardless of whether or not blending is used to manage wet weather flows at municipal facilities, there are ongoing collection system needs that continue to be addressed. Due to the nature of infiltration and inflow problems, maintenance and replacement of collection systems may reduce peak flows, but it is not expected to completely eliminate these flows. "Supersizing" municipal treatment plants to force all peak flows through a biological process would have staggering costs (well in excess of several hundred million dollars in our State) and reduce municipal capabilities to address collection system improvements. Particularly in light of the elimination of the Clean Water Act grant program, Congress needs to be sensitive to the fact that limited municipal funds would better be spent on addressing real infrastructure needs.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact Paul Webb or myself if you need further information regarding this topic.

Sincerely,

Bob Burklow
Mayor

Apr-11-05 01:34pm From-CITY OF INDEPENDENCE 8163257722 T-268 P.02 F-810

City of Independence

WATER POLLUTION CONTROL DEPARTMENT

P.O. BOX 1019 • INDEPENDENCE, MISSOURI 64051-0519 • (816) 325-7711 • FAX (816) 325-7722

AN EQUAL OPPORTUNITY EMPLOYER

April 11, 2005

The Honorable Christopher S. Bond
United States Senate
274 Russell Senate Office Building
Washington, DC 20510-2503
Fax: 202-224-8149

Dear Senator Bond:

On behalf of the City of Independence, I bring to your attention the hearing held on April 13, 2005 on wastewater blending under the Clean Water Act before the Committee on Transportation and Infrastructure, Subcommittee on Water Resources and the Environment. Wastewater blending has been subject to significant discussion in Congress and the media - and it has been described as unsafe for public health and the environment. The truth is that blending is a critical wet weather management practice for the Little Blue Valley Sewer District, which serves the eastern half of Independence. With blending, the District can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy wet weather, while still meeting permit limits - which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,

Dick Champion, Jr.
Director, Water Pollution Control

c: The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment

WATER AND WASTEWATER
P.O. Box 2787
Lewisburg, Tennessee 37091

April 7, 2005

VIA E-MAIL

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Re: April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of City of Lewisburg Water and Wastewater, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for consistently treating wastewater flows to meet required discharge limits during peak wet weather condition. With blending, we provide the maximum clean water treatment possible during and after unpredictable, exceptionally heavy rains and/or snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects our wastewater plant and those of other utilizes in Tennessee by preventing washout of sensitive biological systems, and protects public health by allowing us to route peak wet weather flows to the wastewater treatment works preventing sewer backups into homes and businesses and collection system overflows.

We understand those opposing blending assert that it is a means to avoid collection system infrastructure improvements. That is simply not true. Regardless of whether or not blending is used to manage wet weather flows at municipal facilities, there are ongoing collection system needs that continue to be addressed. Due to the nature of infiltration and inflow problems, maintenance and replacement of collection systems may reduce peak flows, but it is not expected to completely eliminate these flows. "Supersizing" municipal treatment plants to force all peak flows through a biological process would have staggering costs (well in excess of several hundred million dollars in our State) and reduce municipal capabilities to address collection system improvements. Particularly in light of the elimination of the Clean Water Act grant program, Congress needs to be sensitive to the fact that limited municipal funds would better be spent on addressing real infrastructure needs.

— Phone 931-359-6831 • Fax 931-270-0229 —

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,

Larry E. Jones
Superintendent

LEJ/jlh

Cc: jon.pawlow@mail.house.gov

Daniel M. Speer, Mayor
Terry Harrison, City Recorder

City of Pulaski
203 South First Street
P.O. Box 633
Pulaski, Tennessee 38478-0633
(931) 363-2516

Pulaski, TN
All-America City
1993

April 6, 2005

VIA E-MAIL

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Re: April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of City of Pulaski, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for consistently treating wastewater flows to meet required discharge limits during peak wet weather condition. With blending, we provide the maximum clean water treatment possible during and after unpredictable, exceptionally heavy rains and/or snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects our wastewater plant and those of other utilities in Tennessee by preventing washout of sensitive biological systems, and protects public health by allowing us to route peak wet weather flows to the wastewater treatment works preventing sewer backups into homes and businesses and collection system overflows.

We understand those opposing blending assert that it is a means to avoid collection system infrastructure improvements. That is simply not true. Regardless of whether or not blending is used to manage wet weather flows at municipal facilities, there are ongoing collection system needs that continue to be addressed. Due to the nature of infiltration and inflow problems, maintenance and replacement of collection systems may reduce peak flows, but it is not expected to completely eliminate these flows. "Supersizing" municipal treatment plants to force all peak flows through a biological process would have staggering costs (well in excess of several hundred million dollars in our State) and reduce municipal capabilities to address collection system improvements. Particularly in light of the elimination of the Clean Water Act grant program, Congress needs to be sensitive to the fact that limited municipal funds would better be spent on addressing real infrastructure needs.

Pride with Progress
Pulaski

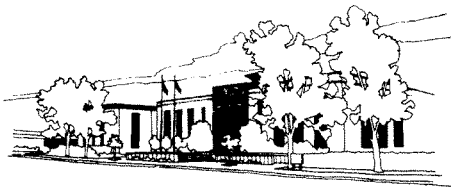
We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,

Daniel M. Speer
Mayor
City of Pulaski

City of San Leandro
Civic Center, 835 E. 14th Street
San Leandro, California 94577



The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-379 Rayburn House Office Building
Washington, D.C. 20515

April 8, 2005

RECEIVED
APR 18 2005
Hon. John J. Duncan, Jr.
Washington, DC

Via Electronic Mail/hard copy regular mail

Re: For the April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of Water pollution Control Division, San Leandro, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our community. With blending, our community can provide the maximum clean water treatment possible to exceptionally heavy rains, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact Dean Wilson if you need further information regarding this topic.

Sincerely,

Dean Wilson,
Plant Manager
Water Pollution control Division,
3000 Davis St.
San Leandro, CA 94577
(510) 577-6030

Shelia Young, Mayor

City Council: Orval "OB" Badger; Tony Santos; Surlene G. Grant; Joyce Starosciak; Glenda Nardine; Bill Stephens

City of
VANCOUVER
WASHINGTON

P.O. Box 1995 • Vancouver, WA 98668-1995
www.ci.vancouver.wa.us

April 15, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Via Electronic Mail

Re: **For the April 13, 2005 Wastewater Blending Hearing Record**

Dear Representative Duncan:

The City of Vancouver, Washington thanks you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act.

Blending is a critical wet weather management practice for many communities. The blending process keeps a treatment process from being inundated during heavy rains and snow melt. Blending also protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health and private property by preventing sewer backups into homes and businesses and collection system overflows. Flow blending is an important wet weather management practice that offers a sound alternative to discharges of untreated sewage. Blending ensures that peak flows still receive treatment while meeting permit limits – which are set to protect public health and the environment.

We appreciate your efforts to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending.

Very truly yours,

Brian K. Carlson, P.E.
Public Works Director

Cc: Congressman Brian Baird
Ed Thorpe, Coalition for Clean Water

City of Vancouver • Department of Public Works
Telephone: 360-696-8008 • Facsimile: 360-696-8460

April 8, 2005

The Coalition for Clean Water
5325 Sunrise Beach Road NW
Olympia, WA 98502

The Honorable John J. Duncan, Jr.
Chairman Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
U. S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Via Electronic Mail

Dear Representative Duncan:

The Coalition for Clean Water is a statewide association of Washington State municipal utilities interested in water quality issues. Thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act (CWA).

The blending process keeps a treatment system from being inundated during heavy rains when flows often exceed the facility's storage capacity. The excess flow is diverted around the secondary treatment system and recombined with the wastewater that has been treated before it was discharged. The resulting effluent meets all requirements of the CWA.

Flow blending is an important wet weather management practice that offers a sound alternative to discharges of untreated sewage. Blending ensures that peak flows receive treatment while meeting discharge permit limits. Blending protects municipal utility infrastructure by preventing the degradation of biological systems and protects public health from potentially harmful sewer backups.

There are several communities in Washington State that benefit from the flexibility that blending provides without compromising environmental protection. Additional communities are in the process of planning necessary infrastructure improvements while trying to keep utility rates affordable.

We appreciate your interest in reviewing this issue.

Sincerely:

Edwin A. Thorpe,
Executive Director
Coalition for Clean Water

EBDA

EAST BAY DISCHARGERS AUTHORITY
2651 Grant Avenue
San Lorenzo, CA 94580-1841
(510) 278-5910
FAX (510) 278-6547

A Joint Powers Public Agency

April 8, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-379 Rayburn House Office Building
Washington, D.C. 20515

RECEIVED
APR 1 3 2005
Hon. John J. Duncan, Jr.
Washington, DC

Via Electronic Mail

For the April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan:

On behalf of the East Bay Dischargers Authority and its member agencies, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. The Authority and its member agencies provide wastewater collection and treatment services to approximately 900,000 residents in southern and eastern Alameda County, California.

Blending is a critical wet weather management practice for our member agencies. Unfortunately, some opponents to the policy mischaracterize blending, as practiced in California, as bypassing treatment process and failure to meet effluent limits. In our situation blending only occurs during periods of high wet weather flows that exceed the capacity of secondary treatment facilities. Primary effluent is blended with secondary effluent and the combined flow is disinfected. Since all effluent limits are met the public and the environment are equally protected. In addition, the relatively fragile bacteriological secondary treatment system is protected from being washed out by high flows and full treatment is immediately restored as flows decrease to more normal levels.

If blending were to be prohibited, billions of scarce public dollars would need to be spent to build additional secondary treatment capacity that would be rarely used. There would be no cost benefit since no additional public health or environmental benefits would occur.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that will allow us to provide cost-effective wastewater collection and treatment to our constituents.

Please do not hesitate to contact us if you need further information regarding this topic.

Sincerely,

JENNIFER TOY
CHAIR

c: Commissioners
Member Agency Managers

C:\Word Docs\Regulatory Issues\Blending Support 040805.doc

CHAIR	VICE-CHAIR	COMMISSIONER	COMMISSIONER	COMMISSIONER	GENERAL MANAGER
Jennifer Toy	Roland J. Dias	Harry Francis	Glenda Nardine	William H. Ward	Charles V. Weir
Union S.D.	Oro Loma S.D.	Castro Valley S.D.	City of San Leandro	City of Hayward	LEGAL COUNSEL
					Charles T. Kilian

P. O. Box 22580
122 Durwood Road
Knoxville, TN 37933-0580
Phone (865) 966-9741
FAX (865) 675-4955

Water & Sewer Services
Member
American Water Works Association
Water Environment Federation

April 12, 2005

VIA E-MAIL

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Re: April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of the First Utility District of Knox County, Tennessee, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for consistently treating wastewater flows to meet required discharge limits during peak wet weather condition. Blending provides the maximum clean water treatment possible during and after unpredictable, exceptionally heavy rains and/or snow melt, while still meeting permit limits set to protect public health and the environment. Blending protects the wastewater plants of many utilities in Tennessee by preventing washout of biological solids. A washout of biological solids would have adverse short-term wastewater treatment effects as well as possible immediate environmental and health effects. Blending will also protect public health by allowing the routing of peak wet weather flows through the wastewater treatment works preventing sewer backups into homes and businesses and collection system overflows of untreated sewer.

We understand those opposing blending assert that it is a means to avoid collection system infrastructure improvements. That is simply not true. Regardless of whether or not blending is used to manage wet weather flows at wastewater facilities, there are ongoing collection system needs that continue to be addressed. Due to the nature of infiltration and inflow problems, maintenance and replacement of collection systems may reduce peak flows, but it is not expected to completely eliminate these flows into the collection system. "Supersizing" wastewater treatment plants to force all peak flows through a biological process would have staggering costs, well in excess of several hundred million dollars in our State, for treatment capacity that would be unused and ineffective until the next heavy rain event. These treatment plant cost will reduce the utilities financial capabilities to address collection system improvements without enormous rate increases. Particularly in light of the elimination of the Clean Water Act grant program, Congress needs to be sensitive to the fact that limited municipal funds would better be spent on addressing real infrastructure needs.

We commend you on your effort to review this important issue. We would welcome your support of a final U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level, increase publicly available information on blending, and provide a cleaner, safer environment for us all.

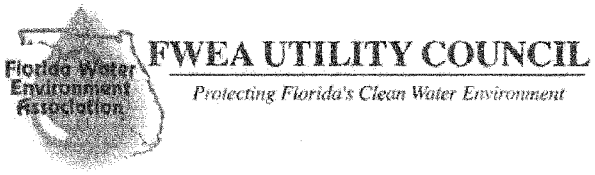
Please do not hesitate to contact Troy Wedekind or myself if you need further information regarding this topic.

Sincerely,

FIRST UTILITY DISTRICT
OF KNOX COUNTY

Ralph McCarter
General Manager

COMMISSIONERS: ZOLA A. TURLEY; President ▫ RICHARD MAPLES; Secretary ▫ DAVID KUBEJA; Treasurer



April 7, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Via Electronic Mail

Re: **For the April 13, 2005 Wastewater Blending Hearing Record**

Dear Representative Duncan,

On behalf of the Florida Water Environment Association Utility Council, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact Suzanne Goss if you need further information regarding this topic.

Sincerely,

Raymond E. Hanson, President
Florida Water Environment Association Utility Council

Cc: The Honorable Connie Mack, United States House of Representatives

P.O. Box 2814 • Windermere, FL 34786-2814
Phone: 407-363-7751 • Fax: 407-370-3595

GENESEE COUNTY DRAIN COMMISSIONER'S OFFICE
-DIVISION OF-
WATER & WASTE SERVICES
G-4610 BEECHER ROAD • FLINT, MICHIGAN 48532-2617
PHONE (810) 732-7870 • FAX (810) 732-9773

JEFFREY WRIGHT
COMMISSIONER

April 12, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-379 Rayburn House Office Building
Washington, D.C. 20515

Via Electronic Mail [Jon.Pawlow@mail.house.gov]

Re: For the April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of Genesee County Drain Commissioner's Division of Water and Waste Service, I want to thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our wastewater treatment facility, which serves 30 communities in 5 counties. With blending, we can provide the maximum sewage treatment possible in response to exceptionally heavy rains and snow melt, while still meeting permit limits. The permit limits are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

A prohibition of blending will result in the need for extremely expensive facility upgrades that will not result in any meaningful improvement to water quality or protection of the public health.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,

Joseph M. Goergen
Plant Manager

Cc:

GREATER LAWRENCE SANITARY DISTRICT

RICHARD S. HOGAN, EXECUTIVE DIRECTOR

LAWRENCE
THOMAS CONNORS
PAUL D. LAMBERT
FRANK McCANN

METHUEN
MICHAEL J. COSTA
CHARLES F. THOMPSON

ANDOVER
JOHN A. PETKUS Jr.

NORTH ANDOVER
LEONARD J. DEGNAN

SALEM, N.H.
EVERETT McBRIDE

TREASURER
JOHN A. PETKUS Jr.

April 11, 2005

The Honorable John F. Kerry
United States Senate
304 Russell Senate Office Building
Washington, DC 20510-2102

Dear Senator Kerry:

The Greater Lawrence Sanitary District (the GLSD) is a water pollution abatement district serving four communities in your Senatorial District - Lawrence, Methuen, Andover, and North Andover. On behalf of the Greater Lawrence Sanitary District, I bring to your attention the hearing held on April 13, 2005 on wastewater blending under the Clean Water Act before the Committee on Transportation and Infrastructure, Subcommittee on Water Resources and the Environment. Wastewater blending has been subject to significant discussion in Congress and the media - and it has been described as unsafe for public health and the environment. The truth is that blending is a critical wet weather management practice for our community.

1. The proposed USEPA Blending Policy will allow the GLSD to proceed with current plans (which include blending) to substantially reduce CSO occurrences. The GLSD is currently requesting bids on an $18 million project that will reduce CSO discharges by 60%

2. The proposed USEPA Blending Policy will ensure that the costs of CSO control can be adequately borne by the City of Lawrence. The alternative to GLSD's plan – use of huge temporary storage tanks and/or sewer separation – would cost well in excess of $100 million.

3. Although, the GLSD is improving its secondary treatment facility, providing full secondary treatment for the additional wet weather flows to be routed to the secondary treatment bypass is not practical.

With blending, we can provide the maximum clean water treatment possible to exceptionally heavy wet weather, while still meeting permit limits - which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

240 CHARLES STREET • NORTH ANDOVER, MASS. 01845-1649 • TEL: 978-685-1612 FAX: 978-685-7790

Senator John F. Kerry
April 11, 2005
Page 2

We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,
GREATER LAWRENCE SANITARY DISTRICT

Richard Hogan
Executive Director

Cc: The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment

Via Electronic Mail

Re: **For the April 13, 2005 Wastewater Blending Hearing Record**

Dear Representative Duncan,

On behalf of the Indiana Association of Cities & Towns, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,

Matthew C. Greller, Executive Director
Indiana Association of Cities and Towns

INDIANA Water Environment Association

Indiana Water Environment Association

69th Annual Conference
November 14 - 16, 2005

1209 Polk Street
Indianapolis, Indiana 46202

(317) 685-0009
www.indianawea.org

April 12, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-379 Rayburn House Office Building
Washington, D.C. 20515

Via Electronic Mail

Re: For the April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of the Indiana Water Environment Association, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact this association if you need further information regarding this topic.

Sincerely,

Herbert L. Corn

Herbert L. Corn
President
Indiana Water Environment Association

April 12, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-379 Rayburn House Office Building
Washington, D.C. 20515

Via Electronic Mail

Re: For the April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of the Iowa Water Pollution Control Association (IWPCA), I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to handle exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows. Blending also prevents the need for 'supersizing' plants that in addition to being very expensive, would impact the ability of the plant to treat normal wastewater flows and could threaten the plants ability to meet permit limits.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me at 515-233-0000 or via e-mail at cschumacher@foxeng.com if you need further information regarding this topic.

Sincerely,

Carla J. Schumacher

Carla J. Schumacher
President, IWPCA

Joint Meeting of Essex & Union Counties
500 South First Street ▫ Elizabeth ▫ NJ 07202
908-353-1313 ▫ FAX: 908-353-7925

April 8, 2005

VIA E-MAIL

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Re: April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan:

The Joint Meeting of Essex and Union Counties is a partnership of eleven municipalities in New Jersey which operates a trunk sewer and wastewater treatment facility serving the eleven owners and four "customer" municipalities. On behalf of the Joint Meeting, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act.

As you know, this issue has been debated for several years with opposing groups presenting misleading information about what blending really is. Some have even called the practice a release of raw sewage. It is our suggestion that the committee ask EPA to give a legal interpretation of what existing regulations say about blending. I am confident that after this review the committee will be satisfied that the practice, though necessary at times, is used as an emergency procedure and addresses concerns about treatment of extraordinary stormwater flows. Answers to the following questions would be helpful to you:

1. Does either the secondary treatment (40C.F.R.part 133) or the bypass rule (40 CFR 122.41m) require that all flows to a municipal facility receive biological treatment?

2. Does the bypass rule dictate how a treatment plant must be designed such that sizing primary treatment units to process greater flows than a biological treatment unit is prohibited?

3. Where a plant is designed to blend and meets the applicable water quality standards and permit limitations imposed to assure public health protection, does a public health threat nonetheless exist?

4. If blending poses a significant public health threat, regardless of permit compliance, is full biological treatment the solution or are other physical/chemical treatment options available to effectively address such concerns?

5. What is the estimated cost to municipalities if a blending were declared to be a prohibited bypass and that biological treatment of all flows is required?

We understand those opposing blending assert that it is a means to avoid collection system infrastructure improvements. Some point to the level of funding as reported by revolving state loan funds. That is simply not true. Of the funds that the Joint Meeting has expended in the last 8 years ($32 million) only 25% ($ 8million) represents Revolving Fund Loans. Most authorities do not use the revolving funds for various reasons so that a real accounting of funds expended would demonstrate that indeed a significant degree of funding is going on.

Regardless of whether or not blending is used to manage wet weather flows at municipal facilities, there are ongoing collection system and treatment facility needs that continue to be addressed. All authorities use the GASB 34

accounting system which requires that renewal and replacement costs of systems be calculated and that a program for improvements be established. In addition to this accounting requirement, New Jersey Department of Environmental Protection requires force mains in sensitive areas such as those under bays and water bodies to be tested for integrity. These efforts are above and beyond those of most systems which indicate that New Jersey is serious about maintaining our facilities for the future.

Yet, due to the nature of infiltration and inflow problems, maintenance and replacement of collection systems may reduce peak flows, but it is not expected to completely eliminate these flows. "Super sizing" municipal treatment plants to force all peak flows through a biological process would have staggering costs (well in excess of several hundreds of millions of dollars in our State) and reduce municipal financial capabilities to address collection system and treatment plant improvements. Limited municipal funds would better be spent on addressing more pressing infrastructure and water quality needs such as stormwater management.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,

Samuel T. McGhee
Executive Director

cc: Hon. Robert Menendez
Hon. William Pascrell Jr.

930 NE Hilltop Drive

Topeka, KS 66617

T: (785)357-4780 F: (785)3574725

April 11, 2005

VIA E-MAIL

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Re: April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

The Kansas Water Environment Association understands that you will be holding a hearing on April 13, 2005, regarding wastewater blending under the Clean Water Act and that H.R. 1126 will also be discussed. Requiring all flows to go through all units is counterproductive to the goal of designing and operating a treatment plant to address the full range in flows and wastewater. Blending is a crucial tool for operating a plant so as to optimize pollutant removal under all conditions. We provide the following additional comments in support of the continued use of blending by municipalities.

- Proper Designs of a Plant Include Blending: Municipal treatment plants have historically been designed to blend to optimize the plants' ability to address a range of influent conditions. Forcing all peak flows through the biological process may be expected to worsen plant performance.

- Neither Secondary Treatment nor any Other EPA Regulation Requires Biological Treatment of All Flows: Secondary treatment, similar to any other technology-based standard under the CWA, sets forth effluent limitations. It does not require the use of any specific technology. The choice of technology is left to the permittee. Proper plant design requires the consulting engineer to account for biological process limitations and to configure processes that will work effectively under a range of conditions.

- Disinfection Will Remove Pathogens. While biological treatment does remove some pathogens, pathogens reduction primarily occurs when wastewater is chlorinated. Due to potential water quality impacts associated with chlorination, the use of chlorine is usually

limited to those seasons where it is necessary (based upon local conditions). Disinfection systems are typically designed to perform adequately under peak flow conditions, ensuring public health protection. Blending does not cause the disinfection process to become ineffective.

- Biological Treatment Will Not Provide Significant Removal of Pathogens – Innovative Technologies Should be Used. Forcing all flows through a biological process that is not designed to handle such large flows will shorten the retention time for any flows treated and will not significantly reduce pathogens in dilute wastestreams. If additional reduction of pathogens under peak flow conditions is one's objective, there are technologies (*e.g.*, chemical addition or filtration) including new innovative approaches such as high rate settling (*i.e.*, ballasted flocculation process) that would be more effective.

- Costs: The national costs of building holding basins or sizing biological units so that one hundred percent of flows go through every biological unit would be very high. Given that the treatment plants already meet effluent limits designed to ensure public health protection, such costs could not be justified based upon environmental benefits.

- Requiring Biological Treatment of All Flows Would Have Unintended Adverse Effects: Most biological units generally cannot be designed to accommodate wide variations in flow volumes and influent strength. If all flows had to go through biological treatment, the biological treatment processes that are most amenable to such fluctuations would be trickling filters and waste stabilization ponds (although also not ideal for dealing with such conditions). Since these units do not achieve the same level of treatment as other biological units Congress amended the CWA in 1981 to include § 304(d)(4) recognizing these units as equivalent to secondary treatment. EPA regulations allow these facilities to discharge a lower quality effluent. Therefore, we would expect lower quality effluent to be discharged if biological treatment of all flows were to be required.

- The Kansas Experience: Kansas utilities and cities will be greatly affected by decisions made concerning this policy. Midwestern weather patterns include highly variant rainfall conditions, often resulting in extreme rain events and corresponding high flows in collection systems. The Kansas Department of Health and Environment (KDHE) has, in the opinion of KWEA, worked very steadfastly with communities throughout the state to complete programs to reduce infiltration/inflow and set environmentally and fiscally sound programs for collection system management. Peak flows do remain in systems and blending is an important tool for communities to manage these flows. Current KDHE policy recognizes the importance of protecting water quality. Permits currently in force in Olathe, Kansas and Lawrence, Kansas are prime examples of technology being applied to protect the environment and give cities an optional treatment method (blending) during wet weather periods. We strongly urge that the blending policy be implemented in such a way that it will allow KDHE and other state agencies to continue to work with local communities in developing peak flow management programs that are effective, both in protecting the environment and being good stewards of taxpayers funds.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that will allow municipalities to continue to operate plants as designed rather than restricting their abilities to meet permit effluent limits when treating peak wet weather flows.

Please do not hesitate to contact John Metzler at (913) 681-3200, extension 2107, if you need further information regarding this topic.

Sincerely,

for
Martha Tasker
President, KWEA

cc: Representative Jerry Moran
Representative Dennis Moore
KWEA Board
John Metzler, Johnson County Wastewater

April 6, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. Congress House of Representatives
B-376 Rayburn House Office Building
Washington, D.C. 20515

Via Electronic Mail

Re: For the April 13, 2005 Wastewater Blending Hearing Record

Dear Congressman Duncan:

On Behalf of the Knoxville Utilities Board (KUB), thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. In a letter dated January 8, 2004, the Knoxville Utilities Board (KUB) submitted comments to the Environmental Protection Agency (EPA) concerning the proposed national blending policy. As you can see from the attached letter, KUB expressed strong support for the proposed policy. Today, nearly 18 months after the draft policy was published for comment, EPA has yet to finalize and issue a blending policy. As such, the hearing to be held on April 13, 2005 is of critical importance to KUB and to the wastewater industry nationwide.

The issue of blending is especially important to KUB at a time when we are embarking upon a 10-year, $530 million dollar collection system improvement program (PACE 10) where the ability to continue blending at our plants is essential. Absent the ability to utilize this wet weather treatment alternative as we have for the past two decades, KUB would be faced with additional costs currently estimated to be in excess of $100 million in treatment plant modifications. As costly as these plant modifications would be, they would not result in measurable improvements in water quality during the rain events in which blending would otherwise have been used. That may come as a surprise, but let me explain why industry professionals dedicated to protecting the environment and the public health of communities all across this country recognize blending as an environmentally sound treatment approach.

Knoxville is a prime example of how blending has been used successfully to treat high wet weather flows resulting from inflow and infiltration (I/I). KUB has three wastewater

treatment plants that incorporate wet weather blending into the treatment processes. Each of these plants was built between the late 1970's and the early 1990's. The design (including the blending component) was approved by the Tennessee Department of Environment and Conservation (TDEC) and, in the case of our two largest plants, approved and funded in part by EPA. The design allows high flows resulting from wet weather events to be "split" within the plant such that some flows receive only primary treatment and some only secondary treatment prior to being combined again into a single stream for disinfection and discharge. During significant storm events, as much as 75 % of the flow reaching the plant can be stormwater. Blending allows the plants to handle the large and sometimes sudden surge associated with high wet weather flows without endangering the biological processes, which might otherwise be negatively impacted.

The important thing to remember is that during the time when blending is in use, all discharge parameters contained in our NPDES permit are still met. No parameter or standard within the permit is relaxed or ignored when blending is in use. Thus blending does not result in the discharge of "raw" or "untreated" sewage, nor is there a discharge of "inadequately treated sewage".

Through its PACE 10 Program, KUB is taking steps to reduce the amount of I/I that enters our collection system during storm events, but high wet weather flows will always be a challenge faced by wastewater treatment agencies. Blending is an environmentally sound treatment approach that avoids potentially serious adverse impacts on our plants while at the same time maintaining water quality and protecting public health. The draft policy put forth by EPA contains six requirements that are to be adhered to by plants that blend. Blending, when done in conformance with EPA's draft policy, is a tool to be used along with collection system rehabilitation; capacity assurance programs; management, operations and maintenance programs; and other wet weather initiatives to appropriately address peak flows during wet weather events. Plants such as KUB's that are designed for blending and operated in accordance with the draft EPA Blending Policy will continue to be an asset to the communities they serve and will protect the quality of the waterways into which they discharge.

While KUB's interests will be well represented by the Association of Metropolitan Sewerage Agencies (AMSA) and industry representatives who will testify at the hearing, we would also like for KUB's specific comments in support of blending to be a part of the official record of the hearing. Therefore I would request that this letter and the attached letter of January 8, 2004 be included in the hearing record.

We commend you for your efforts to review this important issue and would welcome your support on a final national EPA policy on wastewater blending. Please do not hesitate to contact me if further information is needed.

Sincerely,

Bill R. Elmore, P.E.,
Sr. Vice President & Chief Operating Officer

Attachment

c: Mintha Roach, President and CEO, Knoxville Utilities Board
Jon Pawlow, Counsel, Subcommittee on Water Resources & Environment

January 8, 2004

Water Docket
Environmental Protection Agency
Mailcode 4101T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Attention: Docket ID No. OW-2003-0025

Re: Proposed National Blending Policy - Docket ID No. OW-2003-0025

To Whom it May Concern:

I am writing on behalf of the Knoxville Utilities Board's 65,000 wastewater customers to offer strong support for the EPA's proposed national blending policy, issued November 7, 2003. KUB operates four wastewater treatment plants in the Knoxville area, two of which were designed using EPA guidelines that allow blending during high wet weather flows. Both of these plants were constructed with EPA grant funds and were designed in a manner that ensures that all flows leaving the plant – both in dry weather and in wet weather – meet the secondary treatment standards of our NPDES permits. If the EPA policy is not adopted and the practice of blending is no longer allowed, it would require tens of millions of dollars for new infrastructure to make our plants compliant, with at best a negligible improvement in water quality.

Multiplied across the hundreds of similar plants across the country, such a financial burden would detract from the efforts underway to improve the infrastructure of wastewater systems nationwide. The Association of Metropolitan Sewerage Agencies, of which KUB is a member, estimates the cumulative impact at $100-200 billion dollars.

KUB is currently in the midst of a five year plan which forecasts spending at least $1,000,000 every month on improvements to the wastewater system – more than $60,000,000 during the life of the plan. These projects include rehabilitation, replacement, cleaning, and capacity improvements to ensure that the collection system is appropriately maintained. That level of spending is not likely to diminish in the foreseeable future as we focus on the elimination of infiltration and inflow in our collection system and the renewal and replacement of our older lines.

If the proposed blending policy is not adopted and we are subsequently required to build system storage to ensure full biological treatment of all flows, the cost to our customers is estimated at more than $70,000,000. Again, that money would provide no measurable improvement in the quality of the effluent. We believe that money could be better spent elsewhere in the system, and to greater effect.

There are many challenges facing the wastewater treatment industry today, and KUB is doing all it can to rise to these challenges. We believe that adoption of the proposed blending policy is a prudent step toward success in that effort. The safeguards contained in the policy ensure that POTW operators use blending only as needed and under strict controls, including compliance with the same permit limitations that apply during dry weather operations. It simply does not make sense for EPA to reverse its longstanding support of projects employing the blending process when there is so little to be gained – and such a large price to pay – in doing so.

We respectfully request that EPA adopt the proposed national policy as currently drafted and allow wastewater system operators to continue their efforts to improve the whole of their systems, rather than focusing so much of their resources on improvements that will make so little difference in our nation's water quality.

Sincerely,

Mintha E. Roach
Acting President and CEO

c: Ken Kirk, Association of Metropolitan Sewerage Agencies (AMSA)

MARYLAND ASSOCIATION OF MUNICIPAL WASTEWATER AGENCIES, INC.

April 12, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Via Electronic Mail

Re: **For the April 13, 2005 Wastewater Blending Hearing Record**

Dear Representative Duncan,

On behalf of the Maryland Association of Municipal Wastewater Agencies, Inc, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for some of our member communities. With blending, our member communities can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Given the federal disinvestment in municipal water quality infrastructure funding, a decision to disallow blending would exacerbate federal unfunded water quality mandates while triggering new infrastructure investments that would provide extremely little benefit for the cost.

Please do not hesitate to contact Paul Calamita (804/716-9021) if you need further information regarding this topic.

Sincerely,

Julie Pippel
President

Cc: Hon. Wayne T. Gilchrest

P. O. Box 397 Bath, MI 48808
(517) 641-7377-/Phone (517) 641-7388/Fax
www.mi-wea.org mwea@cablespeed.com

April 13, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Via Electronic Mail

Re: **For the April 13, 2005 Wastewater Blending Hearing Record**

Dear Representative Duncan,

On behalf of the Michigan Water Environment Association (MWEA), We thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities.
With blending, our 1485 member communities can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending, with an appropriate CMOM program, protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact Joseph Goergen, our Blending committee chairperson, at 810-232-7662, if you need further information regarding this topic.

Sincerely,

William Gramlich
MWEA President

Cc: Representative John D. Dingell
Representative John Conyers, Jr.
Representative Carolyn Cheeks-Kilpatrick
Representative Thaddeus G. McCotter
Representative Vernon J. Ehlers
Representative Peter Hoekstra
Senator Carl Levin
Senator Debbie Stabenow

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Curt Christeson
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Secretary-Treasurer
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Association Directors
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Curt Goodman
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Membership Director
Scott DeVries
(517) 371-1200

Local Section Director
George Bobick
(989) 891-1202

Federation Directors
Cheryl Vosburg
(269) 781-3289
Randy Hamlett
(517) 545-2500

Preserving The Environment •
Improving Water Quality

Kevin L. Shafer, P.E.
Executive Director

April 13, 2005

Via Electronic Mail and U.S. Mail

Representative Gwendolynn Moore
Fourth Congressional District of Wisconsin
1408 Longworth House Office Building
Washington, D.C. 20515

Representative Paul Ryan
First Congressional District of Wisconsin
1217 Longworth House Office Building
Washington, D.C. 20515

Representative F. James Sensenbrenner, Jr.
Fifth Congressional District of Wisconsin
2449 Rayburn House Office Building
Washington, D.C. 2051504909

Re: For the April 13, 2005 Wastewater Blending Hearing Record

Dear Representatives Moore, Ryan and Sensenbrenner:

On behalf of the Milwaukee Metropolitan Sewerage District and its user communities, I bring to your attention the hearing held on April 13, 2005 on wastewater blending under the Clean Water Act before the Committee on Transportation and Infrastructure, Subcommittee on Water Resources and the Environment. Wastewater blending has been subject to significant discussion in Congress and the media – and it has been described as unsafe for public health and the environment. The truth is that blending is a critical wet weather management practice for our community. With blending, we can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy wet weather, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

milwaukee metropolitan sewerage district
260 W. Seeboth Street, Milwaukee, WI 53204-1446
414-225-2088 • email: KShafer@mmsd.com • www.mmsd.com

I define "blending" for purposes of this letter as the routing of a limited amount (usually less than 10%) of treatment plant flow around the biological treatment unit(s), one of the five treatment plant elements. The "rerouted" flow, called "in-plant diversion," is then blended back into the balance of the plant flow prior to disinfection and discharge of the effluent to Lake Michigan. **The resultant "blended" effluent is fully (not partially) treated to all EPA, DNR and discharge permit standards.** MMSD uses blending only during large wet weather events as a means of maximizing treatment capacity at the Jones Island secondary treatment plant. In peak wet weather flow conditions full biologic treatment is sometimes not possible, because the plant receives large flow volumes at those times from both combined and separate sewers and from the deep tunnel and those influent flows exceed capacity. The use of blending allows treatment and disinfection to permit standards of those flows that would otherwise be directly bypassed to surface water without any treatment. I am attaching here a copy of the comments MMSD filed with the U.S. EPA on its proposed blending policy.

The current MMSD discharge permit strictly limits blending. Only the Jones Island plant may blend and only during wet weather. Blending may not exceed 60 million gallons per day and is subject to the following conditions and monitoring: all wet weather flow is recombined prior to disinfection and all Jones Island plant effluent limitations are met at the main plant outfall; all flows shall receive treatment equivalent to primary treatment and disinfection; the in-plant diversion (around secondary treatment) should be operated during wet weather only when peak flows are in excess of secondary treatment capacity and only after flow is maximized to the other MMSD treatment plant (South Shore plant) to the extent practicable; and the MMSD shall ensure that its collection system is designed, operated and maintained to maximize system storage and conveyance capacity according to accepted good engineering practices. In summary, blending is a wet weather peak flow management technique that is to be used only when peak flow conditions exceed the secondary treatment capacity of the treatment plants. MMSD has needed to divert flow around secondary treatment only infrequently during the past two years, three times in 2003 (total estimated annual volume 56 million gallons) and twice during 2004 (total estimated volume annual 25.6 million gallons). To put this in perspective, the total volume of wastewater treated at the Jones Island treatment plant during 2004 was approximately 34 *billion* gallons. We are told that the Wisconsin DNR has permitted the use of blending in the discharge permits of the following communities: Brookfield, Waupun, Mt. Horeb, Marshfield, Port Washington and Fond du Lac.

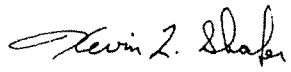
In its "Report to the Natural Resources Board" dated March 15, 2001, the Wisconsin Department of Natural Resources recommended that the MMSD "Maximize the use of the in-plant diversion around the secondary treatment system at Jones Island as soon as SSO (separate sewer overflow) and/or CSO (combined sewer overflow) becomes tributary to the ISS and continue that practice until it becomes apparent that the SSOs and CSOs generated by the event can be fully captured by the ISS." (Report to the Natural Resources Board, p. 39.) We also note that the Wisconsin Legislative Audit Bureau, in its audit report on the MMSD dated July 2002, recommended (at p. 51) the continued and effective use of blending as a means of maximizing plant capacity during peak flow conditions, thereby reducing overflow volumes.

In summary, MMSD uses blending only as a last resort in heavy rainstorms. The practice of blending helps to minimize overflow volumes as we move forward with our $900 million dollar overflow reduction plan which will further reduce overflows.

We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,



Kevin L. Shafer, P.E.
Executive Director
Milwaukee Metropolitan Sewerage District

Attachment: 2/09/04 Letter to Tracy Mehan, US EPA

c: The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment

O:/Blending/GeneralCityLetterforBlendingHearingRecord

Preserving The Environment •
Improving Water Quality

Kevin L. Shafer, P.E.
Executive Director

February 9, 2004

Tracy Mehan, III
Assistant Administrator
Office of Water
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Mail Code 4104 T
Washington, D.C. 20460

RE: Docket ID No. OW-2003-0025
National Pollutant Discharge Elimination System (NPDES) Permit Requirements for Municipal Wastewater Treatment Discharges During Wet Weather Conditions

Comments by the Milwaukee Metropolitan Sewerage District (MMSD) on Proposed U.S. EPA Policy

Dear Assistant Administrator Mehan:

EPA has requested comment on the use of the six principles listed in the proposed policy to define the conditions under which the blending of effluent routed around the biological treatment unit prior to discharge would not be a prohibited bypass within the meaning of 40 CFR 122.41(m). Before responding to this request, we would like to state for your record that blending during peak wet weather flow conditions has long been recognized by the engineering community as an efficient means of maximizing treatment capacity at secondary treatment plants. In a peak wet weather flow situation, when full biologic treatment is not possible, the practice of blending reduces the total pollutant load to receiving waters when compared to direct discharge of excessive wastewater flow volumes. For this reason, the practice of blending during peak wet weather events has long been used by the Milwaukee Metropolitan Sewerage District, particularly at the Jones Island Treatment Plant, which receives large flow volumes during wet weather from both combined and separate sewer service areas and from the deep tunnel system, which temporarily stores excess flows during wet weather. It is our best engineering judgment that, when wet weather flows exceed the secondary treatment capacity at the plant, the discharge of blended flows that have been disinfected and meet all final effluent limitations is a wiser alternative than the discharge of completely untreated wastewater.

milwaukee metropolitan sewerage district
260 W. Seeboth Street, Milwaukee, WI 53204-1446
414-225-2088 • email: KShafer@mmsd.com • www.mmsd.com

The public notice for this proposed policy states that "EPA intends that ultimately such policy would provide a framework that (1) ensures appropriate management of wet weather flows at a POTW consistent with generally accepted good engineering practices and criteria for long-term design..." (68 FR 63045) The MMSD wastewater treatment system has been constructed under facilities plans which have been reviewed and approved by both the Wisconsin Department of Natural Resources and by the U.S. EPA, Region V. Those approved facilities plans included decisions about the necessary and cost effective secondary treatment capacity at the treatment plants, and included approval of structures which allow for the diversion of excess wet weather flows around secondary treatment when that capacity is exceeded. The current discharge permit issued to MMSD allows for blending of flows when certain peak flow conditions are met, provided that final effluent limitations continue to be met.

Further restriction of peak flow diversions is inconsistent with the facilities planning cost effectiveness decisions that have already been made by Wisconsin DNR and U.S. EPA. If the MMSD is required to provide full biologic treatment for all wastewater flows up to the maximum 60 million gallons per day which the current discharge permit allows to be diverted under peak flow conditions, the MMSD would be required to enlarge the capacity of its Jones Island treatment plant by 60 MGD. The estimated total present worth of such a project is between $232 and $365 million. **This would be the cost of full biologic treatment of the diverted flows which occur at the Jones Island plant on average five times per year (based on last ten years performance). These costs would be incurred despite the fact that final effluent at Jones Island has consistently met secondary treatment standards and has been disinfected to comply with final effluent limitations in our WPDES permit.**

The existing regulatory framework, *i.e.*, facilities planning rules, secondary treatment standards, and NPDES permit requirements, addresses this stated EPA goal quite effectively. While some clarification may be necessary to prevent abuse of blending, EPA should not impose new requirements or restrictions through this policy upon facilities which intend, in compliance with the existing regulations and accepted good engineering practices, to use blending as a means of maximizing treatment capacity. Rather, the policy should afford the engineers who plan, build and operate the affected POTW's, as well as the engineers who approve those plans and regulate the operation of those POTW's, the ability to continue to make sound engineering judgments about how best to achieve compliance with existing requirements. Although certain aspects of the proposed policy are well founded, unfortunately, other aspects of the proposed policy effectively impose significant additional limitations which either go beyond current legal requirements or are duplications of facilities planning efforts or anticipated CMOM efforts and which have the effect of limiting the ability of engineers to exercise good engineering judgment.

With those general comments in mind, here are our specific comments on the six principles described in the proposed policy at 68 FR 63049:

(1) This principle is basically a restatement of existing requirements for final effluent limitations for secondary treatment. These are current regulations which must be achieved by all treatment plants, including those which discharge blended flows. A plant meeting these requirements, including a plant which discharges blended effluent, has fully complied with existing law, unless water quality based requirements apply.

If a facility is unable to meet the percent removal requirements under sec. 133.103(d) due to excessive I/I, the facility should nevertheless be permitted to continue to blend flows, subject to the other requirements of this policy, while I/I reduction efforts continue. Restricting the POTW from using blending does not foster greater I/I reduction. The POTW will need to achieve I/I reductions as a planning and construction effort entirely separate from its use of blending as an operational technique. Typically, user communities are responsible for contributing significant amounts of excessive I/I through local sewer systems, which must be rehabilitated. The determination of whether I/I is excessive or nonexcessive is made during facility planning using a cost-effectiveness analysis. Denial of blending requests will not foster the removal of excessive I/I from collection systems. While I/I reduction needs are evaluated in facility planning, the blending of flows at the treatment works should be allowed under the discharge permit because it will ameliorate the negative environmental impacts of excess wet weather flows by reducing pollutant loads to surface waters as much as possible. Establishment of nonexcessive I/I should not be a pre-condition for authorization of blending in the discharge permit so long as the POTW has an ongoing facility planning process.

(2) This principle requires that "the NPDES permit application provides notice of, and specifically recognizes, the treatment scenario that would be used for peak flow management. The treatment scenario, including designed capacity of various units, should be consistent with generally accepted practices and long-term design criteria, and designed to ensure that discharges meet effluent limitations based on secondary treatment regulation..." Later, the principle states that the application of long term design criterion would typically include evaluation of changes to the base and peak design flows at the treatment plant "from the time the peak flow treatment scenario was last recognized by the NPDES authority..." Under Wisconsin facility planning requirements, this type of design criteria evaluation is done during the facility planning process. This is the most appropriate and effective way to perform that evaluation. Inclusion of design evaluation in the permit application process is an unnecessary and burdensome duplication of effort which could result in different regulators reviewing the same decisions and arriving at different and possibly conflicting positions.

(3) This principle states that the treatment scenario should provide for **equivalent of primary clarification** for diverted flow. We assume that the term "equivalent of primary clarification" does not mean the same thing as "primary or equivalent treatment" as defined at 40 CFR sec. 125.60; however, this term should be defined. We recommend that the term "equivalent of primary clarification" be defined in terms of waste strength, *i.e.*, a range of conventional pollutant concentrations. In any case, so long as the final plant effluent (including blended flows) meets secondary treatment standards, there appears to be no legal basis for the requirement to provide equivalent of primary clarification.

(4) This principle requires that flow be diverted around secondary treatment only when capacity of "the treatment unit is being fully utilized." EPA has asked for specific comment on whether the term "fully utilized" should be defined; in our view it should be defined in a way that leaves flexibility for the plant operating engineer to exercise good engineering judgment. This definition should allow for engineering judgment on timing of diversions when flows are *anticipated to exceed* the capacity of treatment units, not just after the flows have *actually exceeded* capacity. Flows often fluctuate significantly during wet weather events, so restrictions on diversions around secondary treatment units must be flexible enough to allow operating engineers to make decisions as needed taking into account fluctuating flows during peak conditions. If operating engineers do not have this flexibility, wet weather flows that would otherwise receive some treatment, including disinfection, will often have to be bypassed without any treatment.

(5) This principle requires monitoring to yield data that are representative of the final blended discharge to ensure compliance with applicable water quality-based effluent limitations. Again, this is a restatement of existing regulation: monitoring is always required to provide representative data. It is not necessary to state a requirement for disinfection of blended effluent prior to discharge because this is a requirement of state law.

(6) This principle requires proper operation and maintenance of the collection system over which the permittee has operational control in a manner consistent with 40 CFR 122.41(e). The factors which should be considered in evaluating whether this requirement is met should be those identified in the draft Capacity Management, Operations and Maintenance (CMOM) policy; further, these factors should be evaluated in the CMOM review and approval process, not in the permit review process as a condition of blending approval. Again, this will be a duplication of effort which is burdensome for both regulators and permit holders and which may result in conflicting regulatory decisions.

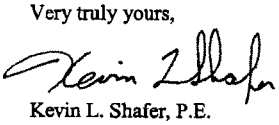
EPA has also requested comment on whether permits that authorize blending should contain a specific reopener clause. A reopener clause is a good idea since this is an evolving policy, and since most treatment plants are subject to continuous change on various fronts, including expansion of treatment service area, treatment process changes,

industrial and commercial user base changes, and treatment capacity changes. However, a reopener clause is probably not necessary, since a permit may always be modified for cause.

EPA has also asked whether it should conduct rulemaking to implement the proposed policy. To the extent that the final policy will impose additional legal requirements on permit holders, rulemaking is required.

The MMSD appreciates this opportunity to comment on the proposed policy. Please feel free to contact Susan Anthony of my staff at 414-225-2106 or santhony@mmsd.com if you have questions regarding these comments.

Very truly yours,



Kevin L. Shafer, P.E.
Executive Director

KLS/SBA/O:\1203blending

MESERB
Minnesota Environmental Science and Economic Review Board
Using science and economics to improve environmental regulations

April 11, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

BY E-MAIL

Re: April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

The Minnesota Environmental Science and Economic Review Board (MESERB) understands that you will be holding a hearing on April 13, 2005 regarding wastewater blending under the Clean Water Act and that H.R. 1126 will also be discussed. Requiring all flows to go through all units is counterproductive to the goal of designing and operating a treatment plant to address the full range in flows and wastewater. Blending is a crucial tool for operating a plant so as to optimize pollutant removal under all conditions. We provide the following additional comments in support of the continued use of blending by municipalities.

- Proper Designs of a Plant Include Blending: Municipal treatment plants have historically been designed to blend to optimize the plants' ability to address a range of influent conditions. Forcing all peak flows through the biological process may be expected to worsen plant performance.

- Neither Secondary Treatment nor any Other EPA Regulation Requires Biological Treatment of All Flows: Secondary treatment, similar to any other technology-based standard under the CWA, sets forth effluent limitations. It does not require the use of any specific technology. The choice of technology is left to the permittee. Proper plant design requires the consulting engineer to account for biological process limitations and to configure processes that will work effectively under a range of conditions.

- Disinfection Will Remove Pathogens. While biological treatment does remove some pathogens, pathogens reduction primarily occurs when wastewater is chlorinated. Due to potential water quality impacts associated with chlorination, the use of chlorine is usually limited to those seasons where it is necessary (based upon local conditions). Disinfection systems are typically designed to perform adequately under peak flow conditions, ensuring public health protection. Blending does not cause the disinfection process to become ineffective.

- Biological Treatment Will Not Provide Significant Removal of Pathogens – Innovative Technologies Should be Used. Forcing all flows through a biological process that is not designed to handle such large flows will shorten the retention time for any flows treated and will not significantly reduce pathogens in dilute wastestreams. If additional reduction of pathogens under peak flow conditions is one's objective, there are technologies (*e.g.*, chemical addition or filtration) including new innovative approaches such as high rate settling (*i.e.*, ballasted flocculation process) that would be more effective.

- Costs: The national costs of building holding basins or sizing biological units so that one hundred percent of flows go through every biological unit would be very high. Given that the treatment plants already meet effluent limits designed to ensure public health protection, such costs could not be justified based upon environmental benefits.

- Requiring Biological Treatment of All Flows Would Have Unintended Adverse Effects: Most biological units generally cannot be designed to accommodate wide variations in flow volumes and influent strength. If all flows had to go through biological treatment, the biological treatment processes that are most amenable to such fluctuations would be trickling filters and waste stabilization ponds (although also not ideal for dealing with such conditions). Since these units do not achieve the same level of treatment as other biological units Congress amended the CWA in 1981 to include § 304(d)(4) recognizing these units as equivalent to secondary treatment. EPA regulations allow these facilities to discharge a lower quality effluent. Therefore, we would expect lower quality effluent to be discharged if biological treatment of all flows were to be required.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that will allow municipalities to continue to operate plants as designed rather than restricting their abilities to meet permit effluent limits when treating peak wet weather flows.

Please do not hesitate to contact me at 320.762.1135 or alasd@rea-alp if you need further information regarding this topic.

Sincerely,

Bruce A. Nelson

Bruce A. Nelson, Executive Director, Alexandria Lake Area Sanitary District (ALASD)
MESERB President

cc: The Honorable James L. Oberstar, Subcommittee on Water Resources & Environment (*ex officio*)
MESERB Executive Committee Members

April 27, 2005

The Honorable John J. Duncan
Chairman, House Subcommittee on Water Resources and the Environment
B-376 Rayburn House Office Building
Washington, D.C. 20515

Re: H.R. 1126, the *Save Our Waters from Sewage Act of 2005.*

Dear Chairman Duncan,

I write to you to urge your support for passage of H.R. 1126, the *Save Our Waters from Sewage Act of 2005.*

The need for this legislation arises from a November 2003 EPA rulemaking that proposes to expand EPA's ability to allow "blending" of non-treated and treated municipal sewage prior to discharge from publicly owned treatment works (POTWs). EPA reasons that it needs this expanded regulatory authority to effectively deal with inflow challenges to POTWs following particularly wet weather conditions. This type of untreated discharge would otherwise be in direct violation of current Clean Water Act standards.

During periods of particularly wet weather flows received by a POTW's collection system and treatment facility increase. These significant increases in flow can create operational challenges for treatment facilities and potentially adversely affect treatment efficiency, reliability, and control of operations with a treatment plant (POTW). Activated sludge systems used by POTWs as part of the treatment process are particularly vulnerable to these high volume peak flows. In cases where peak flows approach or exceed design capacity of an activated sludge unit, solids can potentially wash out the biological mass necessary for treatment, which could then diminish treatment efficiencies for weeks or months until the biological mass in the aeration basins is reestablished.

EPA seeks to address these potential operational shortfalls of POTWs by simply allowing them to circumvent Clean Water Act discharge standards when necessary. While we can sympathetize with the operational needs and challenges of POTWs, we are deeply troubled by the harm such discharges would cause to some in the seafood community.

The National Fisheries Institute is the national trade association for the diverse fish and seafood industry of the United States. The NFI is a "water to table" organization representing fishing vessel owners & aquaculturalists, processors, importers, exporters, distributors, retailers, and seafood restaurants. Our members are committed to providing consumers with safe,

sustainable, and diverse seafood choices. In particular, our members that farm shellfish are very concerned that the proposed rulemaking would significantly and negatively impact shellfish operations. Several state agencies with expertise in these matters advise us that they would expect to enlarge closure zones around sewage outfall areas to protect public health should the EPA proposed rulemaking be finalized. Such actions could force closure of shellfish growing areas that fall within the state-mandated closure zones; extend shellfish harvest closure periods to allow longer periods of dilution; and increase the frequency of shellfish harvest closures.

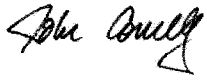
The annual farm-gate value of the West Coast shellfish industry alone is more than $100,000,000; providing living-wage jobs and an important tax base in our rural coastal communities. Over the past three decades, we ahve seen a stead loss in shellfish growing areas due to shoreline development and non-point source pollution. We estimate these losses total more than $20,000,000. We simply cannot afford to lose any more ground due to poorly conceived public policy.

In addition, H.R. 1126 is not 'new law.' It simply codifies current EPA regulations contained within 40 CFR 122.41(m) that allow "blending" of non-treated with treated sewage in extreme circumstances where no other course of action is feasible. NFI does not oppose common sense action when faced with dire consequences. However, we do not support weakening Clean Water Act standards to the detriment of our industry as a matter of simple convenience or in lieu of pursuing better options, which is precisely what EPA suggests in their current rulemaking.

We believe there are other options available to POTWs to improve treatment of wet weather flow without resorting to "blending" as a first resort. In fact, EPA received many such options as a result of the public comment period contained under the Administrative Procedures Act rulemaking process (Federal Register / Vol. 68, No. 216 / Friday, November 7, 2003 / Proposed Rules). Plainly, the EPA's decision to circumvent our Clean Water Act standards is simply the most convenient option available to the agency, and unfortunately, it is an option that the fish and seafood industry simply cannot support. We hope we can count on your support for H.R. 1126.

Thank you for your attention to this important matter and your continued commitment to the fish and seafood industry. Please feel free to contact NFI's Margaret McElroy at 703-752-8889 or mmcelroy@nfi.org if we can answer your questions on this matter.

Sincerely,



John Connelly
President

Natural Resources Defense Council
Advocacy Center

EPA's Proposed Sewage Dumping Policy

In November, 2003, EPA proposed changes to the Clean Water Act's National Pollutant Discharge Elimination System (NPDES) Permit Requirements for Municipal Wastewater Treatment During Wet Weather Conditions that would allow routine discharges of largely untreated sewage during rain events.[1] EPA calls this proposal its "blending" policy because it would allow sewer operators to mix largely untreated sewage with treated sewage before discharging it into our waterways.

Because EPA's sewage dumping policy would increase sewage pollution and threaten public health, it has provoked a firestorm of protest. Public health officials, state environmental officials, shellfishermen, marina operators, and tens of thousands of citizens have signed petitions urging EPA to drop it. Among those weighing in against the proposal are state environmental agencies in Florida, Georgia, New Jersey, Michigan, and Washington, the American Public Health Association, East Coast and Pacific Coast Shellfish Growers, several county public health agencies, and the Children's Environmental Health Network.

EPA's sewage dumping policy is also controversial because it undermines current Clean Water Act treatment standards, conflicts with Clean Water Act legal requirements, allows inadequately treated sewage to be discharged even when feasible engineering alternatives exist, and threatens to undermine 30 years of progress in our rivers, lakes, and coastal waters provided by the Clean Water Act's secondary treatment program for sewage. Many view EPA's policy as "environmental backsliding" that will undermine current incentives for sewer operators to maximize treatment of sewage to protect public health and the environment. The following is a sampling of the comments that members of the public have filed with EPA objecting to its sewage dumping proposal:

What the Public is Saying About EPA's Proposed Sewage Dumping Policy (updated Jan. 24, 2005)[2]

Sewage Dumping Threatens Public Health

Joint Comments by the American Public Health Association; Children's Environmental Health Network; National Association of People with AIDS; Physicians for Social Responsibility; and various M.D.s and M.D./P.H.D.s.

- "Studies of chlorine, chlorine dioxide and ozone have demonstrated the need for physical removal of particles in preparing water for disinfection to protect against waterborne disease transmission."
- "...solids removal... is not particularly effective at removing viruses or parasites. . . The result is critical because viruses and parasites, such as *Giardia* and *Cryptosporidium*, cause the majority of identifiable waterborne disease outbreaks in the U.S... Public health studies have documented that more than half of all waterborne disease outbreaks in the U.S. in the past fifty years were preceded by heavy rainfall."

[1] 68 Fed. Reg. 63042 (Nov. 7, 2003) (hereinafter Proposed Blending Policy).
[2] These are excerpts from publicly-filed comments on EPA's proposed sewage blending policy.

www.nrdc.org 1200 New York Avenue, NW, Suite 400
Washington, DC 20005
tel 202 289-6868 fax 202 289-1060

new york • los angeles • san francisco

- "Disinfection byproducts may cause increased risk of cancer to humans. Studies have shown an increased risk of bladder, colon and rectal cancers in populations with extended exposures to chlorinated drinking water... Use of disinfectants and exposure to disinfection by-products should be minimized, not increased, as would be the case under the EPA proposal."

Harris County Public Health & Environmental Services, TX

- "increased exposure to pathogens in roadside ditches, streams and bayous represents a significant health risk to humans (especially children) and animals."

American Society for Microbiology (ASM)

- ". . . we are concerned that the proposed policy may provide inadequate control of microorganisms that pose significant threats to human health through contamination of sources used for potable water supplies in particular."
- ". . .there is no explicit requirement to control pathogenic microorganisms in blended discharges to acceptable levels."

Axel C. Ringe, President, Tennessee Clean Water Network

- "Pathogens (disease-producing microorganisms) found in sewage include bacteria (such as e.coli), viruses (such as hepatitis A), protozoa (such as Cryptosporidium and Giardia) and helminth worms. The pathogens in sewage can cause illnesses ranging from diarrhea, vomiting, respiratory infections, to giardiasis, cryptosporidiosis, hepatitis, and dysentery. Waterborne outbreaks are often caused by Cyrptosporidium and Giardia, which are not effectively removed from blended sewage."

Henry Gluckstern, former senior water attorney and Associate Regional Counsel for waste, EPA Region II.

- "Blending is a seriously faulty response to a serious water contamination problem. Its only possible outcome will be radically higher number of illnesses and deaths among Americans. The oath that you recently undertook in assuming your position at EPA mandates that you assure the withdrawal of the blending policy."
- "Any permitted discharge during precipitation events would increase the bacterial, virus and parasitic burden [in] America's recreational waters and drinking water supplies and, therefore, pose an endangerment to human health and the environment."

Policy Is Not Workable

Georgia DNR

- "[I]t would be difficult for the operator to predict with reasonable certainty that the blended effluent would be able to meet permit limits and protect water quality standards."
- "There will be no way of assuring that the wastewater treatment facility operators 'fully utilize' treatment capability before allowing blending to occur."
- "It will be very difficult to craft permits that have the proper conditions that specify when blending is appropriate (at what flow volumes and at what conditions). It will be difficult to track compliance on what could be complicated permits."
- "It will be difficult for operators (especially those who operate small systems with limited personnel and training) to determine when blending is appropriate and to execute the blending process appropriately to ensure that no violations occur."

Michigan DEQ

- "Because the proposed policy is vague in definition, interpretation could have an effect on federal and state enforcement actions under the federal Clean Water Act."

- ". . . the USEPA uses terms that too loosely describe acceptable engineering practices and design goals that are effectively used as the basis for accepting the alternate wet weather treatment scheme."

Harris County Public Health & Environmental Services, TX

- "[A] review of the proposed bypass principles indicates a high degree of reliance on self-monitoring and self-reporting to ensure compliance. Our experience has shown the determinations of compliance via self-reporting data can be unreliable."

Dale S. Bryson, Former EPA Region V Water Quality Director

- "[T]he policy as proposed will make any issued permits almost unenforceable."

Sewage Dumping Undercuts Drinking Water Protection Efforts

Niagara County Health Department, NY

- "The vast majority of sewage wastewater treatment facilities in Niagara County discharge to waterways used as drinking water source or recreational waters. . . With all the time, effort and initiatives placed on enhancing water quality, it is difficult to justify weakening standards at this point in time."

American Water Works Association

- "Currently, the [SDWA] and CWA requirements and implementation sometimes do not adequately protect drinking water sources, especially where multiple regulatory agencies are responsible for implementation of these two acts...While the SDWA regulates the quality of treated drinking water, the CWA should protect the contributing source water."

Sewage Dumping Encourages Poor Wastewater Management

Florida DEP

- "We are not familiar with any design references that allow blending as a proper management practice to handle peak flows."
- "The policy...ultimately rewards utilities where sanitary sewer systems have not been maintained to remove wet weather flows. Allowing blending at a treatment facility undermines the incentive for a system to remove wet weather I/I, leading to higher surface water discharges. Once treatment infrastructure is in place allowing blending it is not likely to be removed and better alternatives are not likely to be explored in the future."
- " [The policy] would likely encourage utilities that have significant wet weather flows to continue their reliance on ocean outfalls and deep well disposal systems rather than investing in more environmentally beneficial and less wasteful water management options."

Georgia DNR

- "Those POTWs with the greatest amount of infiltration problems could benefit the most regarding this policy, because they experience the greatest amount of dilution in their system. . . This is especially true for small towns that may have antiquated collection systems and are in significant need of improvements."
- "[The Environmental Protection Department] anticipates that a lot of permittees will want to spend money to upgrade their POTWs to allow them to blend instead of using the money to fix their collection systems."

Massachusetts DEQ

- "...we are concerned that the draft policy ... would both promote the use of blending practices under minor storm events and allow the continued degradation of collection systems."

Michigan DEQ

- "The USEPA policy indicates that a permitted 'treatment scenario' for a POTW would not be considered a bypass, and the permittee would not have to make a demonstration that there was no feasible alternatives [sic] to the bypass. This would allow POTWs serving separate sanitary collection systems to be subject to a lesser demonstration than POTWs serving combined collections systems."
- "The proposed . . . policy states that the secondary treatment regulations do not specify the type of treatment process to be used to meet secondary treatment requirements, not to they preclude the use of nonbiological facilities. This is not entirely true, and it seems that the USEPA may be revising history as to the importance of biological treatment in forming the secondary treatment regulations."
- "The secondary treatment regulations were established, in part, to encourage municipalities to correct inflow and infiltration (I/I) problems in the collection system and to prevent the intentional dilution of wastewater to meet permit limitations. We see the potential for this proposed policy to be misused to allow the situations that the secondary treatment regulations were established to prevent."

Washington State Dept. of Food and Shellfish Programs of Washington Dept. of Health

- "Allowing the bypass of wastewater at sewage treatment plants will likely cause municipalities to de-emphasize I/I reduction programs, leading to an increased loss of sewage to ground and groundwaters during dry seasons."
- "...[T]he overall cost savings discussed on the EPA website for this proposed policy may be shortsighted."

Washington State Dept. of Ecology

- "It also potentially allows inexpensive but unacceptable alternatives to removing excessive I/I in collection systems and the potential to allow unnecessary bypassing to reduce operating costs."
- "While EPA's guidance policy discusses the benefits of using blending to reduce sanitary sewer overflows and combined sewer overflows, it fails to address the adverse effects, environmentally and economically, of discharging partially treated secondary waste to sensitive waterways, shellfish areas, sediment impact zones or other natural resource areas."

State of Washington, Office of the Governor

- "Should [this] policy be adopted, this will prove to be such a powerful disincentive to regular maintenance that sewer infrastructure will be allowed to deteriorate over time, exacerbating collection system problems and at that same time increasing the amount of flow that is bypassed at the wastewater treatment plants."

American Society for Microbiology (ASM)

- "The proposed policy does not address the potential for pathogen (bacteria) regrowth in blended effluents subsequent to discharge."
- "Levels of disinfection that prevent pathogen regrowth may vary from system to system and as a function of storm water loading. The proposed blending policy does not explicitly address variability in disinfection efficacy."

Sewage Dumping is Not a Long Term Solution

Michigan DEQ

- "The USEPA should not excuse the lack of long-term municipal collection system maintenance nationwide by establishing a policy that further relaxes the already lenient performance expectations of separate collection systems."

New Jersey DEP

- "As proposed, the blending policy is flawed in its institutionalization of blending as a long term solution, its failure to require continuous disinfection, the uncertainty that will arise from its implementation, and its potential effect on the design of future POTWs."
- "By making blending a permanent compliance option, the proposed policy would encourage the development of undersized POTWs."

Massachusetts Dept. of Fish and Game, Riverways Programs

- "This policy is doing a disservice by not taking a holistic approach nor being pro-active in trying to craft a policy that would provide incentive and guidance to eliminate the need to bypass flows by looking at the interrelatedness of stormwater, wastewater, and water quality."

New York State Assembly

- "EPA's proposal condones Storm Sewer Overflows instead of encouraging much needed infrastructure investment to help POTWs meet existing law and regulations…The proposed policy does not promote a real solution to the real problems of outdated, crumbling infrastructure, and associated untreated sewage discharges."

Harris County Storm Water Quality Section (SWQS), TX

- "SWQS believes that providing leniency and flexibility in the form of blending is a short-term solution that precludes POTW owners/operators from developing alternative treatment strategies during peak wet-weather flows or upgrades to existing infrastructure."

American Society for Microbiology (ASM)

- "The proposed blending policy recognizes current needs due to periods of wet weather, but does not provide a provision for addressing the current or future scope of the problem."

There Are Alternatives to Sewage Dumping

Washington State Dept of Ecology

- "On pages 8 and 9 of EPA's draft guidance policy, five non-blending options are listed to enhance treatment of wet weather flows without damaging biological treatment capabilities. Ecology believes that all of these options are viable and we encourage to use of these options instead of blending."

Connecticut Dept. of Agriculture/ Bureau of Aquaculture (DA/BA)

- "Major improvements have been made during the past 15 years with wastewater pollution control facility (WPCF) renovations and advanced treatment, pumping station and sewer line upgrading and combined sewer overflow separations. These improvements have resulted in upgrading in the classifications of shellfishing areas and fewer 'emergency' closures due to bypass events."

Cayuga County Health and Human Services Department, NY

- "Many communities in our area have already made the investment to fully treat all of the wastewater before discharging into the receiving water bodies, even under extremely adverse weather conditions."

Sewage Dumping Hurts Businesses Dependent Upon Clean Water

Connecticut Dept. of Agriculture/ Bureau of Aquaculture (DA/BA)

- "[DA/BA] . . . has concerns with regards to the impacts on the shellfish industry in Connecticut."
- "There are currently more than 67,000 acres of . . . shellfish grounds within the forty-foot depth contour of Long Island Sound. . . [that] support an industry that has a current annual market harvest value of $11,000,000.00 with 320,000 bushels of shellfish (clams and oysters) harvested. Eight years ago, before a natural disease die-off. . . the industry was worth $45,000,000.00."

Tacoma-Pierce County Health Department (TPCHD)

- "We believe this policy would have adverse impacts on the shellfish industry in our county an in all other areas with a commercial and/or recreational shellfish industry."

East Coast Shellfish Growers Association

- "The policies proposed would most certainly have a significant negative impact upon the shellfish growers represented by our group. The shellfish that we grow depend on a healthy environment, and high water quality standards are imperative to the marketability and food safety of our . products."
- "[National Shellfish Sanitation Program (NSSP)] guidelines for shellfish growing area classification dictates that large prohibited zones are placed around sewage outfalls."
- "[The Association] urges the EPA to take no steps, such as these changes in sewage blending requirements, which would increase contamination in our coastal waters, and endanger the livelihoods of those in the shellfish industry."

Pacific Coast Shellfish Growers Association

- "This proposal, if enacted, would almost certainly result in devastating consequences to shellfish farmers, not just in the Pacific Coast, but the Atlantic and Gulf Coasts as Well."
- "While we appreciate the challenges faced by municipalities, it must be realized that their failure to protect water quality leads to a "taking" of our growers' property when degraded water quality leads to closures on shellfish harvest."
- "[Health regulations] force state shellfish authorities to shut down the harvest of our shellfish if water quality drops below food safety levels...The shellfish industry across the county is already facing closures of growing areas due to impaired water quality that fails to meet the [National Shellfish Sanitation Program] standard."
- "On the West Coast alone, the farm-gate value of our shellfish exceeds $89 million annually, which provides jobs and an important tax base in coastal communities."

State of Washington, Office of the Governor

- "I am concerned that adoption of the draft policy would close additional shellfish areas and increase the public's exposure to human pathogens in surface waters."

Association of Metropolitan Water Agencies

- "To protect public water supply use, we must protect the ambient water quality upstream of each water intake. Reliance solely on drinking water treatment, beyond that which is needed to address

naturally occurring pollutant concentrations imposes an unfair burden on communities to address preventable problems caused by manmade sources of pollution."

Sewage Dumping Threatens Tourist Regions

A joint letter from 14 Great Lakes Advocate and Environmental Groups

- "The Great Lakes are more vulnerable to increase pollutant loadings because it is a 'closed system.' ... ...[I]n 2003 there were more than 1,400 beach closures around Lake Michigan alone, many of them due to sewage overflows."

Fayette County Commission, WV

- "Many of our streams that are tributaries of the New River are already adversely impacted by bypasses from wastewater treatment plants during rainfall events. This proposed policy would make these bypasses legal, endanger public health, and possibly our tourist economy."

Sewage Dumping is Backsliding

Michigan DEQ

- "It is our position that the proposed policy provides a much less stringent measure by which a permittee could seek authorization for a blending scenario."

Pennsylvania DEP

- "The apparent backsliding in the environmental and public health protection that would occur under this proposed policy is in direct conflict with the additional protections being put in place by EPA for [Concentrated Agricultural Feeding Operations, Combined Sewage Overflows, Municipal Separate Storm Sewage Systems and the Long Term 2] under the Safe Drinking Water Act."

Washington State Dept of Ecology

- "This policy would reverse some of the gains achieved by POTWs in providing secondary treatment over the past 20 or 30 years."
- "We believe EPA's approach, in some cases, represents environmental backsliding and could subject EPA to legal challenges for not upholding the Clean Water Act."

Cayuga County Health and Human Services Department, NY

- "It is our Agency's opinion that this proposal if enacted, would be a significant step backwards in the protection of surface water in Cayuga County as well as New York State."

Harris County Storm Water Quality Section (SWQS), TX

- "SWQS generally views this policy as a relaxation of current environmental policy."

Dale S. Bryson, Former EPA Region V Water Quality Director

- "The proposed policy violates a fundamental tenet of historic national policy that says all wastewater should be treated to the maximum extent possible in keeping with the treatment units at a specific POTW."
- "It should be noted that the proposed policy is totally inconsistent with previous positions adopted by the Agency."
- "The proposed policy clearly flies in the face of public health protection and environmental protection."

- "[Principle 2] is an unmitigated disaster in terms of protecting public health and the environment. This principle undermines the 30+ years of progress made under the CWA."

Washington State, Office of the Governor

- "The policy confounds years of responsible investment and hard work make by our Washington communities to finance and construct projects that remove excessive flows from their collection systems."

Henry Gluckstern, former senior water attorney and Associate Regional Counsel for waste, EPA Region II.

- "The proposed policy would destroy the painfully-made gains in water quality which have taken over three decades to achieve."

Sewage Dumping Thwarts Local Environmental Protection Efforts

Connecticut Dept. of Agriculture/ Bureau of Aquaculture (DA/BA)

- "Some of the WPCF's have recently switched from toxic chlorine disinfection to ultra-violet disinfection."
- "The cost already incurred by municipalities to upgrade treatment may be wasted if the final effluent quality is degraded."

Florida DEP

- "The Florida Department of Environmental Protection is concerned that the proposed policy may negatively impact several areas of our current regulations, including Florida's antidegradation policy, anti-backsliding provisions, and rules requiring utilities to properly plan for the necessary domestic wastewater facilities. We do not believe the proposed policy is compatible with the state's efforts to encourage and promote water reuse as well as our overall water resource protection program."

Michigan DEQ

- "A less stringent federal policy may make it more difficult for the MDEQ to require a higher standard for its regulated municipalities."
- "The concern is that the USEPA's policy may actually undermine our protective procedures. We are concerned that these site-specific evaluations would replace other monitoring requirements, or could be used to further relax effluent limitations by considering wet weather receiving stream flows as alternates to dry weather low-flow conditions."

Alexandra D. Dawson, Legal Affairs Director, Mass. Association of Conservation Commission

- "The Connecticut River next to which I live was long known as the best-landscaped sewer in the US. Swimming was actually impossible until the 1980s. The recovery of this great river since then has been one of the environments most encouraging developments. We have hosts of fishermen, and the river carries shad, salmon and rare species such as short-nosed sturgeon. To allow blending of sewage would imperil these advances. In the cities of the lower portion of the river in Mass. Combined sewer overflows are still a problem. People down there want to swim and fish too without danger of illness or experience odors. They are gradually working out ways to uncombined the sewers from the storm drains. If you change your rule, this effort will cease and people there (not so rich as upstream) will lose hope of these benefits, and people downstream from them in Connecticut will be the victims. We have a good system going that has saved a river 400 miles long. Do not imperil this work."

Kerry Collins, Executive Director, Parish Bayou Vermillion District

- "Instead of the EPA being the leading innovator in finding solutions, the EPA has become a drag from behind that I and others like me must overcome to achieve what should be our mutual goals. It appears the EPA is no longer the protector of the environment but the leading advocate for special interests that are attempting to weaken protections. Let others be the advocate for the special interest – we need you to be our advocate."

The Baykeeper, NY/NJ

- "New York and New Jersey have worked hard to improve marine water quality in recent years – beach closures are decreasing, shellfish bed acreage is increasing and tourism revenue in our shore areas continues to climb. The EPA's proposed policy threatens all of these positive terns, just to alleviate some wastewater treatment plants of their responsibility to maintain their sewer systems."

Sewage Dumping is Bad for the Environment

City of Chicago, Office of the Mayor

- "EPA's blending policy sanctions the discharge of partially untreated sewage, a practice that is well-understood to contribute to the contamination and degradation of our waterways while at the same time posing concerns for public health."

Axel C. Ringe, President, Tennessee Clean Water Network

- "When the secondary treatment process is skipped, most of the nutrient pollution, oxygen-demanding substances, and other pollutants remain in the wastewater. Therefore, as blending increases so will hypoxic zones, fish kills, habitat loss, algal blooms, and shellfish contamination."

Citizens Oppose Sewage Dumping

- More than 16,500 citizens have signed a petition urging EPA to withdraw this proposal, www.petitionsite.com.
- In addition, 18,714 activists have e-mailed their opposition to the proposed policy on NRDC's Earth Action Network.

Haven Livingston, beach lifeguard, surfer, and marine biologist, Santa Cruz, CA

- "I personally have become sick for weeks with sinus infections and skin rashes due to exposure from sewage contaminated water. Our shores are valuable places we should be protecting and nurturing, not dumping our waste!"

Joan M. Howard, Pittsburg, PA

- "Who's bright idea was this? Obviously someone more interested in saving money than protecting the American people from disease! I understand our cities are hard pressed financially in this current economy. I am sure the savings these cities would realize from dumping untreated waste will be dwarfed by the cost of treating the people who are made ill by the practice!"

Cynthia Frisch, The Pegasus Foundation

- "Unlike third world countries where viruses, parasites and other pathogens are continuously discharged into waterways, America has always been the one country where people could trust the water – truly a sign of a more sophisticated system of living where knowledge and science

and the goal of a better quality of life meet. To allow the water to decrease in quality is unacceptable to a nation such as our own."

Technical Review of the Katonak-Rose Report on Public Health Risks Associated with Wastewater Blending (November 17, 2003)

Adrienne Denise Nemura, P.E.
55 Underdown Road
Ann Arbor, Michigan 48105

March 7, 2005

Author's Statement
EPA's proposed blending policy has received much public attention and many people have expressed opposition over allowing this practice to continue any time, any where in the United States. As a professional engineer with 20 years of experience in water quality management, I am concerned that much of the debate over blending is occurring due to misinformation and a lack of understanding about this complex issue.

To begin, answering the question "*will discharge of blended effluent result in more people getting sick*" is difficult and cannot easily be answered through a relative risk assessment for a generic, single source for a single flow event. This is because site-specific sources of variability are significant when evaluating the relative risk when recreating in natural waters in wet weather. These sources of variability include environmental conditions (e.g., die-off and transport of pathogens in surface waters), actual recreational exposure, and presence of other potential sources of pathogens such as agricultural sources, urban runoff, sewer overflows, decentralized wastewater treatment systems, leaking septic systems, and other sources. This is important because these other sources in themselves can make the water unsafe for swimming, particularly during wet weather events (which is when the practice of blending is used).

The Katonak-Rose report has often been cited as demonstrating that the relative risks associated with blending are considerable. Because of this, I conducted a review of the report as to its technical adequacy and applicability for assessing the proposed national blending policy. The Katonak-Rose report does not consider the variabilities described above and therefore has inherent limitations. More so, however, the Katonak-Rose analysis has several other serious shortcomings that make its use inappropriate for assessing the national blending policy and the public health risk of blending.

In this review I am neither advocating nor opposing blending, nor am I making a statement about the relative risk associated with the practice of blending. Rather, I am attempting to demonstrate that it is inappropriate to use this single case study to extrapolate conclusions about the national significance of the proposed blending policy.

Overview
The Katonak-Rose report was a single, hypothetical evaluation of the potential risks associated with wastewater blending (Katonak and Rose 2003). The case study was used to calculate the

human health risk associated with recreational exposure to blended effluent[1]. The two findings in the hypothetical case study were:

- The untreated portion of blended wastewater flow accounts for more than 99 percent of the pathogenic viruses and parasites in the final effluent; and
- The risk associated with swimming in recreational waters that receive blended wastewater flows are 100 times greater than if the wastewater had been fully treated.

The risk assessment methodology followed in the Katonak-Rose paper could be acceptable for calculating relative risk for a single source (wastewater effluent) for a single flow event where site-specific sources of variability are neglected. The introductory text (which comprises the majority of the report) provides a summary of public health issues and risk methodologies. It includes several minor errors and inappropriate inferences (as discussed in Appendix A); however, these do not significantly affect the application of the risk assessment methodology for the hypothetical case study.

A number of unrealistic assumptions were made in applying the methodology to reach their general conclusions. These assumptions make the authors' analysis inappropriate to extrapolate to the proposed national blending policy. The assumptions also invalidate the general conclusions about the relative risk associated with blending for this plant as well as for other plants. My summary bases for this criticism are as follows:

- **The treatment processes portrayed for the plant are not typical.** Unlike the case example by Katonak-Rose, the majority of plants that use blending are activated sludge plants that do not have rotating biological contactors (RBCs) followed by tertiary treatment through biotowers (trickling filters). Generalizing results for this plant to national policy implications is inappropriate.

- **The blended routing of wastewater is not representative for this plant and is inconsistent with what is required under the proposed national policy.** The Katonak-Rose case study assumed that the plant diverts a significant amount of flow (2 million gallons per day or mgd) around primary treatment resulting in no treatment at all for 2 mgd. The Authority's comments (Dami 2004) on their review of the Katonak-Rose paper indicated that this scenario is not representative but reflects conditions when part of the plant was out of service. Also, assuming that portions of the blended wastewater do not receive at least the equivalent of primary treatment is in direct contrast to the proposed blending policy. The draft policy specifically states that an untreated discharge cannot be authorized in an NPDES permit. The Katonak-Rose example indicated that this primary bypass receiving no treatment constituted 99 percent of the pathogen load. The report's analysis that there is a 100-fold increase in risk posed by blending is dramatically overstated.

[1] The case study uses the Washington-East Washington Joint Authority's facility in Washington, Pennsylvania to calculate the comparative risk of increased pathogen load in blended versus non-blended effluent for a single discharge event.

- **The baseline comparison is unrealistic for both its assumed flow and pathogen levels.** The paper compared a blended discharge during a peak, wet weather flow condition (20 mgd) to a non-blended discharge during steady-state, dry weather flow conditions (12 mgd). This overstates the relative risk of blending because the appropriate comparison would be between blending and non-blending treatment schemes at the same wet weather flow. If the 20 mgd flow were used to evaluate the pathogen load for a non-blending scenario, the relative difference between the two scenarios would be decreased by 67 percent.

  The paper also did not address the inherent variability in influent concentrations and treatment process efficiencies associated with wet weather flows. Influent variability means that there is a range in pathogen and solids concentrations and therefore a range in treatment effectiveness for individual processes. Process variability means that the effectiveness of secondary and tertiary treatment processes will change depending on flow conditions. For example, shorter mean cell residence time in biological systems has been shown to result in higher levels of pathogens in wastewater (Rose et al. 2004). If the full 20 mgd were put through the facility, process times would be shorter thereby reducing treatment effectiveness and resulting in increased pathogen loading. At greater flows, the plant could also experience washout of its biological treatment systems. Since non-blended discharges were characterized by choosing a single, steady-state dry weather level of pathogens, this likely understates the risk associated with the non-blended discharge. These assumptions distort the relative risk between the blended discharge and the non-blended discharge in this example, making the relative risk larger than expected.

Because of the significant unrealistic assumptions associated with this case study, it is inappropriate to extrapolate or infer anything from this exercise about the risks associated with implementing the proposed blending policy at this plant or any other plant. The national significance of the proposed policy on blending cannot be determined through this study.

Review of Risk Assessment Methodology

The following discussion outlines the risk assessment methodology that was followed and the key assumptions that were made at each step of the risk assessment. The unrealistic assumptions are summarized in Appendix B. The background material that comprises the majority of the report also makes a number of inferences between waterborne disease outbreaks and blended sewage that are not appropriate.

The standard paradigm for risk assessments follows four steps:

1. *Hazard Identification:* a description of the acute and chronic health effects associated the hazard;

2. *Dose-Response Characterization:* a quantification of the relationship between the size of the dose and the extent of the effect;

3. *Exposure Assessment:* a determination of the amount and duration of the exposure; and

4. *Risk Characterization:* an estimate of the magnitude of the public health problem.

The Katonak-Rose paper follows this paradigm. A summary of the specific assumptions for each of these steps follows. In general, the hazard identification and dose-response characterization were adequately addressed. My major concern lies with the exposure assessment and risk characterization steps.

1. Hazard Identification

The paper describes the human health risks associated with raw sewage and lists known pathogens in length. The presence of pathogenic organisms in domestic sewage (treated and untreated) is not an issue subject to much, if any, debate although it is recognized that there are limited data to sufficiently quantify "average" levels. The paper's treatment of the subject is lengthy but not intrinsically problematic. Although more information is available on the use of chlorine and ultraviolet light for pathogen inactivation, the paper's treatment of this topic is limited, but not notably biased.

The hazard identification section has a general discussion of the effectiveness of primary treatment, secondary treatment and disinfection in reduction of pathogens in wastewater. The discussion presents previously published information on pathogen levels in undisinfected primary and secondary effluents; such data are not routinely collected, and the paper does an adequate job of presenting what was available at the time. The range in treatment effectiveness in Table 8 is not surprising given the difficulty in measuring pathogens in wastewater. For example, new methods are just being developed for measuring the presence of pathogens in different wastewater matrices, e.g., raw sewage, primary treated effluent, etc. (McCuin and Clancy 2005). These authors indicated that as treatment process improves the quality of the wastewater throughout the plant, it can appear that processes are "adding" rather than removing oocysts. They also note the need to use parameters other than pathogens (such as turbidity and solids removal) as indicators for treatment effectiveness.

2. Dose-Response Characterization

This section describes some dose-response models that have been evaluated for waterborne pathogens. The discussion is brief but adequately characterizes the approaches that are generally accepted.

3. Exposure Assessment

This section begins with a discussion of sanitary sewer overflows (SSOs) and basement backups. This discussion introduces the potential human health risks associated with other municipal wet weather flows (such as municipal stormwater runoff, basement backups, or SSOs). No further analysis, however, is provided to characterize the risks from these flows or potential trade-offs in managing wet weather flows through the practice of blending[2].

[2] The national experience with sewer separation of combined sewers (which carry both stormwater and sanitary sewage) illustrates the complexity associated with management of wet weather flows. Many communities that consider fully separating their combined sewers (thus "eliminating" discharges of untreated sewage) identify that other pollutant controls are more cost-effective than separation. Communities that have separated can also find that discharges of urban runoff from the newly separate storm sewer system contain pollutant loads that contribute to water quality problems.

The paper then introduces the single hypothetical blending scenario. This scenario needs to be examined in more detail, and a four-step method is proposed: define influent levels, define plant flows, determine process efficiencies, and calculate effluent levels. These steps are described below.

The paper uses a plant process flow diagram based on the Washington/East Washington Joint Authority in Pennsylvania for its blending comparison. It would have been more informative to use a generic flow diagram that would represent the majority of plants where blending occurs, and to identify how the generalized effects may vary when applied to specific plant layouts. A specific flow diagram can, however, still be used for comparisons as long as the assumptions used are appropriate to that flow diagram.

3a. Define Influent

In this step, the influent levels of pathogens are defined. The paper uses "typical" levels of enteroviruses, *Cryptosporidium* and *Giardia* that are acceptable for untreated wastewater. It should be noted that there is considerable variability in these influent levels under dry weather, let alone wet weather conditions. Levels in wet weather influent may be less due to dilution of the influent with inflow from the collection system. However, this assumption does not affect the relative risk comparison since the same assumption is made for both blending and non-blending scenarios, but it does reflect a lack of rigor in the analysis.

3b. Define Plant Flows

This step involves defining a flow condition under which blending would occur, and determining how the flow is split among the various unit processes at the treatment plant. Here, the paper assumes a situation in which a portion of the flow does not receive any treatment at all prior to disinfection. As discussed previously, this is contrary to normal plant operations and is in direct conflict with the proposed blending policy where a minimum of primary treatment is required. Further, the paper does not define a non-blending scenario in which the full wet weather flow is put through the secondary process. Using the same flow rate is necessary for determining relative risk of blending versus not blending.

3c. Determine Process Efficiency

In this step, the pathogen reduction efficiency of each unit process is characterized. The preferred approach for this type of analysis would consider the dependency of reduction efficiency on flow rate so that blending versus non-blending can be compared. The paper applies a fixed percent-removal efficiency to the primary sedimentation process. For the secondary processes, the paper assumes effluent levels that have no dependency on influent levels. This approach cannot account for the effects of flow increases on process efficiency, and thus cannot properly compare different flow routing scenarios. A particularly key assumption is the pathogen levels in the effluent of the biological nitrification towers, which reflect a 99% removal through this process that the authors do not support with data or research.

As with the previous step, the paper does not discuss the performance of the plant under conditions in which blending is prohibited, and 100% of the wet weather flow is sent through the rotating biological contactors and nitrification towers. The deterioration of performance typically seen in fixed-film biological processes that are hydraulically overloaded should not be ignored when comparing blending versus non-blending scenarios.

3d. Calculate Effluent Levels

A mass-balance approach is applied to determine the pathogen levels in the final, blended effluent. The paper does this correctly, albeit unconventionally. An assumption of no disinfection of viruses and protozoa is made. While this is rather conservative (the paper bases the assumption partly on the presence of chloramines, which is questionable, and partly on particle association, which is more substantive), it would not affect the relative risk comparison if the same assumption is made for both blending and non-blending scenarios.

4. Risk Characterization

In this step, a dose is determined and a probability of infection is calculated using a dose-response model. The paper assumes a 10-fold dilution of the effluent in a receiving water and the ingestion of 100 mL by a person recreating in the receiving water. The calculations in the paper's Appendix appear to have neglected the dilution, but as with the disinfection assumption this error would not affect the relative risk comparison if the assumption is made for both scenarios. It does, however, again reflect a lack of rigor in the analysis.

This section compares the risks calculated for a blended flow of 20 mgd with risks calculated, apparently from the Appendix, for a steady-state flow of 12 mgd. This comparison is inappropriate and has no relevance to the issue of authorizing blending of peak wet-weather flows in an NPDES permit versus requiring biological treatment of 100 percent of the same peak flows.

Conclusion

I agree that risk assessment can be a useful tool to demonstrate relative risks associated with different treatment technologies. Because of the significant unrealistic assumptions associated with this case study, however, it is inappropriate to extrapolate or infer anything from this exercise about the risks associated with implementing the proposed blending policy at this plant or any other plant. It is unfortunate that some have used the findings of this study to advocate that blending should be prohibited.

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Appendix A
Errors and Inappropriate Inferences associated between Waterborne Disease Outbreaks and Blended Effluent in the Katonak-Rose Report (Nov. 17, 2003)

March 7, 2005

It is improper to associate outbreaks of waterborne disease outbreaks in recreational waters with wastewater discharges, without recognizing the other venues for exposure (e.g., child-to-child transmission in pools, etc.)

- Page 6 and 7, Figure 2, the apparent increase in reports of waterborne disease outbreaks in the US from recreational water is not due to increased discharges of wastewater. Further investigation reveals that this is due to reported increases associated with "treated" venues (like chlorinated swimming pools) (Yoder et al. 2004).

- Page 6, although there are a significant number of laboratory-confirmed cases of Cryptosporidiosis, children-to-children transmission in swimming pools is likely responsible for the large number of reported cases. CDC indicates that "Crytosporidium is the leading cause of reported recreational water-associated outbreaks of gastroenteritis; transmission through recreational water is facilitated by the substantial number of Cryptosporidium oocysts that can be shed by a single person…and the prevalence of improper pool maintenance…particularly of children's wading pools." (Hlavsa et al. 2005).

- CDC's recommended guidelines for preventing and controlling cryptosporidiosis in recreational waters deal solely with preventing contamination of waters by adults and children recreating in the water. No mention is made of wet weather flow management for wastewater or other sources (Hlavsa et al. 2005).

Page 6, the paper makes no mention that "[i]nfected cattle are an important reservoir of C. parvum and therefore are substantial contributors to sporadic cryptosporidiosis." (Hlavsa et al. 2005).

Page 7, the fact that *Shigella* is associated solely with human feces and is one of the leading causes of recreational waterborne outbreaks in lakes and rivers does not mean that untreated wastewater was the source of the *Shigella*. Investigation into individual outbreaks showed that the likely source was human-to-human transmission associated with bathing areas at beaches or with interactive water fountains at water parks (Yoder et al. 2004 and Lee et al. 2002).

Page 8, the CDC has not specifically identified blended wastewater as contributing to the Milwaukee outbreak (EPA 2004). Investigators concluded that improper filtration at the southern water treatment plant led to the outbreak. Although the environmental source of cryptosporidium is not known, inferences include agricultural run-off, slaughterhouses, and untreated wastewater leaks (MacKenzie et al. 1994).

Pages 9-10, the summary conclusions about what is known about waterborne disease outbreaks neglect to discuss what is not known about swimming beach advisories and closings. The majority of advisories and closures are associated with stormwater runoff (21 percent) or unknown sources (43 percent) (EPA 2003).

Page 13, The statement "there is no program to monitor for these pathogens in sewage discharge" is misleading. The use of indicator bacteria, although imperfect, have been instrumental in administering the NPDES permitting program and the nation's ambient monitoring programs for surface and groundwater. These programs have reduced waterborne disease outbreaks. The obstacles associated with monitoring for individual pathogens in wastewater effluent and natural waters are significant (e.g., probability of occurrence of specific pathogens at any one time, expense of individual tests, detection levels being too high, etc.). Studies show that *E. coli* and enterococci exhibit a strong relationship to swimming-associated gastrointestinal illness.

Page 13, Table 2, *E. coli 0157:H7* and *E. coli* are found in animal feces as well as domestic sewage.

Page 18, properly operating water treatment plants are effective at removing cysts of enteric protozoa from treated water, as demonstrated by years of data.

Page 19, the discussion of concentrations of different pathogens in wastewater neglects to address the dilution of pathogens from stormwater inflow during significant rainfall events. Plants typically use blending for management of the larger wet weather events, when there is more dilution of influent. This is related to the ultimate dose in the receiving water.

Page 25, if an activated sludge plant does not nitrify, there should be no appreciable differences in the ammonia levels which would not affect the formation of chloramines.

Page 26, I am unaware that there is a requirement that wastewater be no more than 10 percent of flow in any waterbody. The source of this statement needs to be identified.

Page 27, the first paragraph discussing factors affecting pathogen survival neglected to mention that salinity tends to kill cysts and other pathogens due to osmotic pressure.

Page 30, the statement that "[p]rimary treatment is not effective in the removal of microbial pathogens" is an overstatement. Primary treatment has been shown to remove up to 50 percent of pathogens.

Page 30, the statement "UV disinfection is ineffective when wastewater contains any solids" is incorrect. The efficiency of UV disinfection is reduced by increased suspended solids and turbidity. The use of UV has been recognized as an appropriate disinfection technology for CSOs and recent advances in UV technology are addressing the limitations associated with increased solids.

Page 30, the statement "Cryptosporidium is not inactivated due to chlorination" is an overstatement. Chlorine in high doses is effective in inactivating Cryptosporidium.

Page 33, the statement "[i]t is a potential that there may be an increase in SSOs in the future" ignores the significant efforts by EPA, the states, and municipalities to reduce the frequency and magnitude of SSOs.

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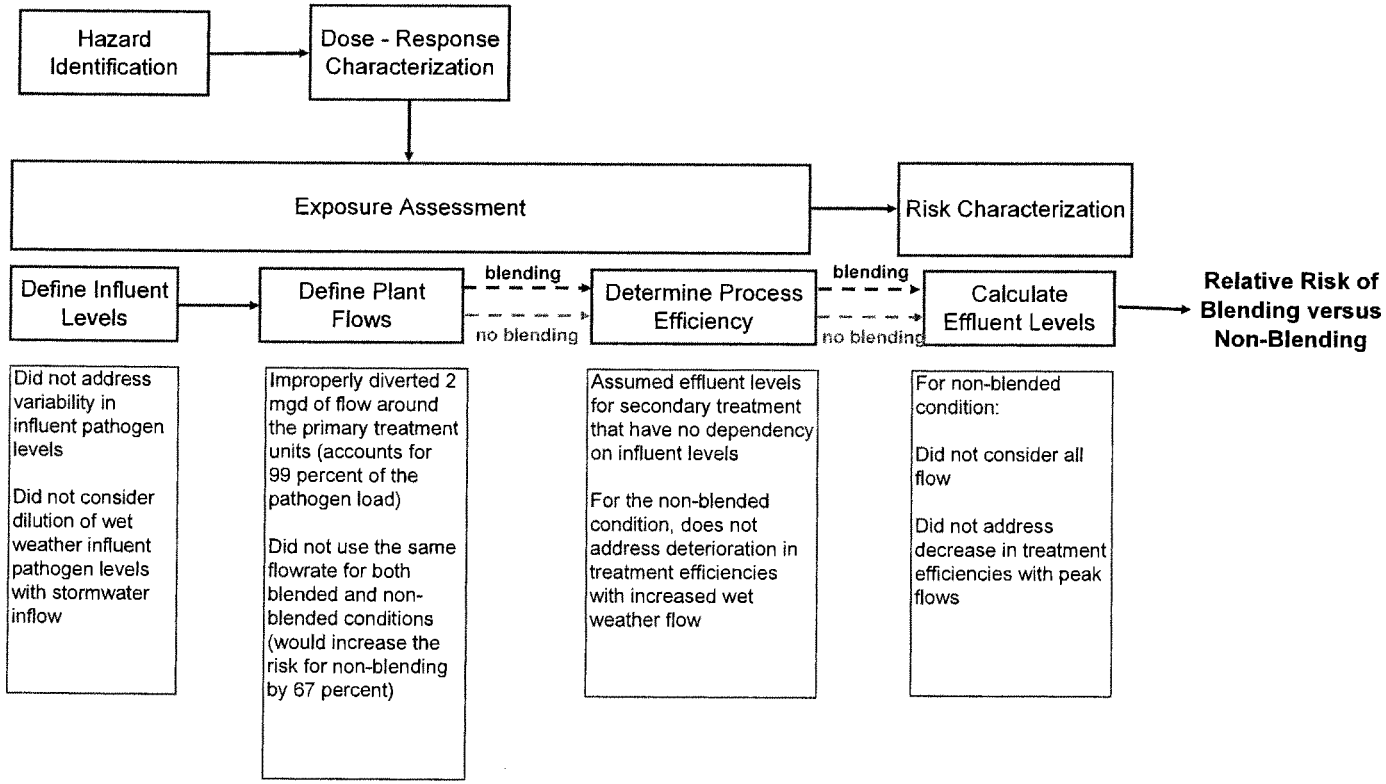
Appendix B. Unrealistic Assumptions in the Katonak-Rose Risk Assessment Case Study Example



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April 8, 2005

VIA E-MAIL

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Re: April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of the New Jersey Water Environment Association, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy rains and snow melt, while still meeting discharge permit limits which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing the loss of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows while providing treatment.

We understand those opposing blending assert that it is a means to avoid collection system infrastructure improvements and that the use of blending amounts to the discharge of raw sewage. That is simply not true. Blending provides for preliminary (screening/grit removal) and primary (solids and floatable materials removed) treatment and disinfection. Regardless of whether or not blending is used to manage wet weather flows at municipal facilities, there are ongoing collection system needs that continue to be addressed. Due to the nature of infiltration and inflow problems, maintenance and replacement of collection systems may reduce peak flows, but it is not expected to completely eliminate these flows. "Supersizing" municipal treatment plants to force all peak flows through a biological process would have staggering costs (well in excess of several hundreds of millions of dollars in our State) and reduce municipal financial capabilities to address collection system improvements. Particularly in light of the elimination of the Clean Water Act grant program, Congress needs to be sensitive to the fact that limited municipal funds would better be spent on addressing real infrastructure needs.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that will both allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,

Henry Penley, President

cc: Hon. Robert Menendez
Hon. William Pascrell Jr.

New York Water Environment Association, Inc.

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The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Via Electronic Mail

Re: **For the April 13, 2005 Wastewater Blending Hearing Record**

Dear Representative Duncan,

On behalf of the New York Water Environment Association, Inc., I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,

John R. Amend
NYWEA President

Cc: Subcommittee Counsel, Jon Pawlow

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AMERICAN WATER WORKS ASSOCIATION

WATER ENVIRONMENT ASSOCIATION

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April 12, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-379 Rayburn House Office Building
Washington, D.C. 20515

Via Electronic Mail

Re: For the April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of North Carolina AWWA/WEA, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact Pam Moss, Executive Director if you need further information regarding this topic.

Sincerely,

Mike E. Richardson, Chairman
North Carolina AWWA/WEA

Cc: Pam Moss, Executive Director

PENNSYLVANIA MUNICIPAL AUTHORITIES ASSOCIATION
1000 North Front Street, Suite 401 Wormleysburg, PA 17043
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www.municipalauthorities.org • info@municipalauthorities.org

April 8, 2005

Congressman John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources and Environment
2267 Rayburn House Office Building
Washington, D.C.

Dear Chairman Duncan:

For nearly five years, the Pennsylvania Municipal Authorities Association, representing 350 sewer authorities in Pennsylvania, has been involved in both dialogue and legal action with EPA to resolve outstanding differences of interpretation on blending as a wet weather treatment option at sewage treatment plants. During this time, certain EPA Regional Offices and state environmental agencies have re-interpreted regulations to preclude blending in NPDES permit decisions. This previously allowed design treatment option to handle severe wet weather flows is no longer available to many plants throughout the country.

Blending is an engineered technical solution for processing severe wet weather flows. It prevents a plant from having its biological treatment capacity washed out by heavy flows by routing a split flow around certain internal treatment once the capacity of those appropriately designed units is fully utilized. **It is not a direct, untreated or partially treated bypass of raw sewage to a waterway**.

Most plants designed to allow blending follow the procedure of primary treatment (removal of solids) at the headworks, routing of a split flow around some biological treatment units, blending of this flow with the fully treated flow, and disinfection of the total flow before discharge to a waterway. **This discharge is monitored and must meet NPDES permit criteria**. Blending is a viable and cost-effective wet weather treatment option, identified in peer reviewed, nationally published design manuals, and until recently recognized and permitted by all EPA regions.

A very important point to remember about blending is that the discharge from a treatment plant using blending must meet the same NPDES standards as when they are not using blending. Monitoring reports at treatment plants are mandated to ensure this. In other words, at all times, the environmental safeguards built into a NPDES permit by EPA and the state environmental agency must be met. In Pennsylvania, this means compliance with the federal Clean Water Act and the Pennsylvania Clean Streams Law. Blending is an internal treatment option that protects the integrity of the plant's operating system when it is inundated with heavy flows, often 2-3 times normal. A request to blend is simply that--it is not a request for weakening of NPDES permit standards.

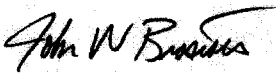
A Freedom Of Information Act (FOIA) request from PMAA to EPA headquarters was received on April 8, 2002*. It was clear from EPA's response that there is no federal policy, guidance or regulation that ever intended to prohibit the use of blending. Two sections, in particular highlight this:

> ***1. EPA has no documents from the promulgation of the bypass provisions that indicate that the bypass rule was intended to preclude the use of blending as a wet weather flow management option.***
>
> ***2. [T]here is no information on the record to the secondary treatment regulation that indicates that EPA considered restricting the practice of blending primary treated peak flows with other flows receiving biological treatment as a wet weather flow management option for achieving compliance with secondary effluent limitations.***

On behalf of the sewer authorities we represent across Pennsylvania awaiting resolution of this issue, we wanted to present this additional information to you. Your role as a member of the House Transportation and Infrastructure's Subcommittee on Water Resources and Environment is critical for the April 13th hearing on this issue. Hopefully, information presented by the speakers will reinforce the argument that blending is a viable treatment option. We also hope that this hearing will be the catalyst to have EPA move forward with release of the blending policy they have had on hold since February 2004.

We hope that you understand the sense of urgency for communities seeking renewal of their NPDES permits that currently include blending or for those that wish to use it as an infrequent treatment option in the future. Please feel free to call with any questions, 717-737-7655. Thank you.

Sincerely,



John W. Brosious
Deputy Director

* Letter from USEPA, Washington, D.C. dated April 8, 2002. Addressed to John Hall, Esq. of Hall & Associates. Received from Kevin Weiss, Water permits Division, Office of Wastewater Management.

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KEYSTONE WATER
QUALITY MANAGER

Pennsylvania Water Environment Association

April 11, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-379 Rayburn House Office Building
Washington, D.C. 20515

Via Electronic Mail

Re: For the April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of the Pennsylvania Water Environment Association, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,

Christina Volkey-Hildith

President

SCHEDULED FOR ORAL ARGUMENT ON MAY 19, 2005

Case No. 04-5073

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

PENNSYLVANIA MUNICIPAL AUTHORITIES ASSOCIATION, *et al.*,
Plaintiffs-Appellants,

v.

MICHAEL O. LEAVITT, ADMINISTRATOR, UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Defendants-Appellees.

On Appeal from the United States District Court for the District of Columbia
Case No. 1-02-CV-1361

REPLY BRIEF OF INTERVENOR ASSOCIATION OF METROPOLITAN SEWERAGE AGENCIES

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TABLE OF CONTENTS

Page

TABLE OF CONTENTS i

TABLE OF AUTHORITIES ii

GLOSSARY iii

SUMMARY OF THE ARGUMENT 1

ARGUMENT 1

I. The EPA Regions' Actions were *Ultra Vires* because Blending is Authorized under the CWA and EPA Regulations. 1

A. Blending is Authorized by the Secondary Treatment Rule. 2

B. Blending is Authorized by the Bypass Rule. 3

C. EPA's Implementation of the Secondary Treatment and Bypass Rules Allows Blending. 5

CONCLUSION 6

CERTIFICATE OF COMPLIANCE WITH FED. R. APP. P. 32(A)(3)(B) AND D.C. CIRCUIT RULE 32(A)(3)(B) 7

CERTIFICATE OF SERVICE 8

TABLE OF AUTHORITIES

Pages:

CASES

*Leedom v. Kyne, 358 U.S. 184 (1958) 1

NRDC v. EPA, 822 F.2d 104 (D.C. Cir. 1987) 4, 5

STATUTES

*CWA § 501(a), 33 U.S.C. § 1361(a) 1, 2, 3

REGULATIONS

40 C.F.R. § 122.41(m) (1988) 3

40 C.F.R. Part 133 (1973) 2

ADMINISTRATIVE MATERIALS

48 Fed. Reg. 52258 (Nov. 16, 1983) 3

49 Fed. Reg. 37998 (Sept. 26, 1984) 4

53 Fed. Reg. 40562 (Oct. 17, 1988) 3

68 Fed. Reg. 63042 (Nov. 7, 2003) 2, 3, 5

* Authorities upon which we chiefly rely are marked with asterisks.

GLOSSARY

CWA	Clean Water Act
EPA	United States Environmental Protection Agency
J.A.	Joint Appendix
NPDES	National Pollutant Discharge Elimination System
POTW	Publicly Owned Treatment Works

SUMMARY OF THE ARGUMENT

The EPA Regions' actions of adopting and applying policy positions that restrict or prohibit blending, which are directly at odds with the CWA and EPA regulations, constitute facial violations of the "clear and mandatory" language of CWA § 501(a), 33 U.S.C. § 1361(a), as well as EPA's own regulations and other materials governing delegated powers. The EPA Regions' actions are therefore *ultra vires*, giving rise to the District Court's subject matter jurisdiction under Leedom v. Kyne, 358 U.S. 184 (1958).

ARGUMENT

I. The EPA Regions' Actions are *Ultra Vires* because Blending is Authorized under the CWA and EPA Regulations.

Appellants' and Intervenor's Complaints alleged that the CWA and its implementing regulations authorize the practice of blending, as repeatedly made clear by EPA's own interpretation and implementation of the statute and regulations. See Intervenor's Cmplt. ¶¶ 42-127; Pls. Cmplt. ¶¶ 35-126; J.A. As pointed out in Intervenor's Initial Brief, the EPA Regions are therefore without authority to impose binding, substantive requirements via "policies" that increase the stringency, applicability, burden of compliance, or compliance costs of those existing regulations. See Intervenor's Br. at 7-10.

Appellee's response never denied, or even addressed, this issue. Instead, Appellee merely asserted in conclusory fashion that blending "implicates" the

bypass rule and the EPA Regions have the delegated authority to interpret the CWA and EPA regulations. See Appellee's Br. at 18-19, 45-48. Appellee's arguments are unavailing. Blending is fully consistent with, and does not "implicate," the bypass rule. The EPA Regions consequently lack authority to adopt and apply policy positions that prohibit blending under the false pretext of "delegated authority." Their *ultra vires* actions violate CWA § 501(a), 33 U.S.C. § 1361(a), as well as EPA's own regulations and materials governing delegated powers.

A. Blending is Authorized by the Secondary Treatment Rule.

The CWA regulates discharges from POTWs through the imposition of effluent limitations based on "secondary treatment," which EPA has defined in terms of the numeric limitations set forth at 40 C.F.R. Part 133. EPA admits that the secondary treatment rule was not intended to prohibit the practice of blending. Pls. Dismissal Response, Ex. 11 at Admissions 29-30; J.A.

As EPA concedes, the secondary treatment rule does not dictate the treatment process that a POTW must use to meet the limitations. Appellee's Br. at 10; see also 68 Fed. Reg. 63042, 63046 (Nov. 7, 2003). The rule does not require that all wastewater flows receive biological treatment and does not preclude the use of non-biological facilities. See 68 Fed. Reg. at 63046. Instead, EPA recognizes that the basic decisions regarding technology or an alternative management technique are left to the permittee's own case-by-case, cost-effective

analysis. See 68 Fed. Reg. at 63046; 48 Fed. Reg. 52258, 52260 (Nov. 16, 1983). Consequently, POTWs may design and operate a treatment process that utilizes blending (combining biological and non-biological treatment processes) during peak wet weather flows to meet effluent limitations.

B. Blending is Authorized by the Bypass Rule.

The bypass rule prohibits the "intentional diversion of waste streams from any portion of a treatment facility." 40 C.F.R. § 122.41(m). EPA admits that the bypass rule was never intended to restrict blending:

> EPA has no documents from the promulgation of the bypass provisions that indicate that the bypass rule was intended to preclude the use of blending as a wet weather flow management option.

Pls. Dismissal Response, Ex. 23 at 1.

Like the secondary treatment rule, "[t]he bypass rule does not dictate that any specific treatment technology be employed." 68 Fed. Reg. at 63048; 53 Fed. Reg. 40562, 40609 (Oct. 17, 1988) ("The bypass provision does not dictate how users must comply."). As stated by EPA, the rule:

> merely 'piggybacks' existing requirements, it does not itself impose costs that have not already been taken into account in the development of categorical standards.

53 Fed. Reg. at 40609. Because the bypass rule imposes no additional requirements or costs beyond those imposed by the applicable effluent limitations,

there are no grounds for an interpretation of the bypass rule that would restrict blending, as the secondary treatment rule contains no such restriction.

Moreover, EPA has explicitly confirmed that blending is not within the scope of the bypass rule's prohibition. For example, when EPA revised the NPDES regulations in 1984, it declared:

> Seasonal effluent limitations which allow the facility to shut down a specific pollution control process during certain periods of the year are not considered to be a bypass. Any variation in effluent limits accounted for and recognized in the permit which allows a facility to dispense with some unit processes under certain conditions is not considered bypassing.

49 Fed. Reg. at 38036-37 (Sept. 26, 1984). In its brief submitted to this Court in NRDC v. EPA, 822 F.2d 104 (D.C. Cir. 1987), involving a challenge to the bypass rule, EPA explained:

> [T]he regulation imposes no limits on the permittee's choice of treatment technology and therefore does not "dictate technology" . . . [T]he regulation requires only that, except for "essential maintenance," the equipment that the permittee has selected will be operated.
>
> . . . [W]hat the Agency originally intended, and still intends, is to ensure "proper pollution control through adequate design operation and maintenance of treatment facilities." "Design" operation and maintenance are those requirements developed by the designer of whatever treatment facility a permittee uses. The bypass regulation only ensures that a facility follows those requirements. It imposes no specific design and no additional burdens on a permittee.

Pls. Dismissal Response, Ex. 3 at 190; J.A. Likewise, EPA's brief informed the Court that the bypass regulation imposes no additional costs beyond those considered by EPA in the development of categorical standards (i.e., the secondary treatment rule). Id. at 193-95.

In sum, EPA has repeatedly affirmed its position that the bypass rule does not prohibit blending, dictate or limit plant design, or impose any additional costs or burdens on regulated entities. The rule plainly cannot be interpreted and applied by the EPA Regions as a basis for their *ultra vires* attempt to prohibit or restrict blending.

C. EPA's Implementation of the Secondary Treatment and Bypass Rules Allows Blending.

Consistent with regulatory history of these rules and the well understood restriction on EPA's authority to dictate or proscribe treatment technology, blending is a common POTW design that: (1) EPA has funded through federal grants, (2) EPA has permitted over the past thirty years, and (3) EPA has never indicated is not an allowable activity. See 68 Fed. Reg. at 63046 (recognizing that blending is routinely employed by POTWs during peak wet weather conditions); Intervenor's Cmplt. ¶¶ 54-59; J.A. The rules were never intended by EPA to regulate, and have not been applied by EPA to proscribe, blending as a means for processing wet weather flow.

Blending is therefore an allowable plant design and operational practice under the CWA and EPA regulations. The EPA Regions have no authority to prohibit blending under the guise of "policies" or their delegated authority to interpret the CWA and EPA regulations. Their actions are *ultra vires* in express violation of the clear statutory mandate of CWA § 501(a), 33 U.S.C. § 1361(a), which provides only the EPA Administrator, not the Regions, with rulemaking authority.

CONCLUSION

For the reasons set forth above, as well as in Appellants' and Intervenor's Initial Briefs and Appellants' Reply Brief, Intervenor respectfully requests that the Court grant the previously requested relief. See Intervenor's Br. at 10.

Respectfully submitted,

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Counsel for Intervenor the Association of Metropolitan Sewerage Agencies

CERTIFICATE OF COMPLIANCE WITH FED. R. APP. P. 32(A)(3)(B) AND D.C. CIRCUIT RULE 32(a)(3)(B)

Certificate of Compliance with Type-Volume Limitation, Typeface Requirements, and Type Style Requirements

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_____

One of the Attorneys for Intervenor
Association of Metropolitan Sewerage Agencies

Dated: _____

CERTIFICATE OF SERVICE

I certify that two copies of the foregoing *Reply Brief of Intervenor Association of Metropolitan Sewerage Agencies* were served via first class mail this 16th day of March, 2005, upon the following:

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U.S. Department of Justice
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P.O. Box 23795, L'Enfant Station
Washington, D.C. 20026

John C. Hall, Esq.
Hall & Associates
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One of the Attorneys for Intervenor
Association of Metropolitan Sewerage Agencies

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SUSAN LEAL
GENERAL MANAGER

Via Fax: (202) 225-6440

April 12, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-379 Rayburn House Office Building
Washington, D.C. 20515

Re: April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan:

On behalf of the San Francisco Public Utilities Commission for Wastewater Enterprise, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for those agencies responsible for wastewater treatment and which are also dedicated to the protection of public and environmental health. Compliance with NPDES permit limits ensures such protection. Blending allows wastewater treatment facilities to treat larger volumes of storm water generated flow than would otherwise be possible if all flow was required to go through biological systems. High flows through a treatment facility will washout sensitive biological systems making them inefficient for several days following high flow events. The biological systems of oversized wastewater treatment facilities designed for high flow conditions are not sustainable under normal flow rates. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact Bill Keaney of my staff at (415) 648-6882 if you need further information regarding this topic.

Sincerely,

Thomas J. Franza
Assistant General Manager
Wastewater Enterprise

The
Somerset Raritan Valley
Sewerage Authority

RECEIVED
APR 1 8 2005
Hon. John J. Duncan
Washington

April 4, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Dear Representative Duncan:

I am writing to you on behalf of The Somerset Raritan Valley Sewerage Authority (SRVSA) regarding the current discussions on the use of effluent blending by wastewater treatment facilities. As universally held by the professional wastewater community, blending is the best engineering practice necessary to allow a treatment facility to properly operate under extreme high flow conditions. The SRVSA has examined its records on blending for the last 10 years (1995-2004). In that time period the Authority has blended its effluent 34 times during high water events and in four (4) of those years (1995, 1997, 1998, 2002) no blending of effluent was performed. In that ten year time period the Authority has only had one (1) violation of its NJPDES Permit limit when we were blending and that was in March of 2001 for TSS (Total Suspended Solids) loading weekly avg. This one (1) permit violation was significantly influenced by the fact that at that time of the high flow event the treatment facility was undergoing a operationally disruptive construction project and had suffered the loss of two (2) of its major side stream equalization basins due to structural problems.

Even though blending provides the Authority with cost effective means of managing extreme high flow events, the Authority has developed a multi-phase capital improvement plan to improve our ability to manage extreme high flow events and reduce the number of times we must blend our effluent. Currently, the Authority has invested over thirty million dollars ($30,000,000) in implementing its capital improvement plan.

At this time the Authority is asking for your help in addressing the blending issue by requesting that you support the use of blending by wastewater facilities to manage their extreme high water flows and urge EPA to address the following questions which will facilitate a better understanding of this issue and resolve many of the incorrect, unfounded and outrageous comments put forth by environmental groups.

QUESTIONS

A. Does either the secondary treatment (40C.F.R. part 133) or bypass rule (40 C.F.R. 122.41m) require that all flows to a municipal facility receive biological treatment?

POLHEMUS LANE • P.O. BOX 6400 • BRIDGEWATER, NEW JERSEY 08807-0400
TEL: (732) 469-0593 • FAX: (732) 469-4179

B. Does the bypass rule dictate how a treatment plant must be designed such that sizing primary treatment units to process greater flows than a biological treatment unit is nonetheless prohibited?

C. Where a plant is designed to blend and meets the applicable water quality standards and permit limitations imposed to assure public health protection, does a public health threat nonetheless exist?

In closing I would like to thank you for your assistance in addressing this issue by allowing the blending of effluent to continues, it will prevent the unnecessary expenditure of large amounts of limited public funds to construct unnecessary additional facilities to provide full treatment for all flow even those that are only experienced during extremely high flow events when blending, if used, provides an engineeringly effective, environmentally friendly and cost effective solution.

Very truly yours,

Glen D. Petrauski
Executive Director

GDP/rel

SOUTH CAROLINA WATER QUALITY ASSOCIATION, INC.

April 12, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Via Electronic Mail

Re: **For the April 13, 2005 Wastewater Blending Hearing Record**

Dear Representative Duncan,

On behalf of the South Carolina Water Quality Association, Inc, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for some of our member communities. With blending, our member communities can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

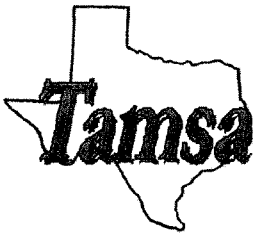
Given the federal disinvestment in municipal water quality infrastructure funding, a decision to disallow blending would exacerbate federal unfunded water quality mandates while triggering new infrastructure investments that would provide extremely little benefit for the cost.

Please do not hesitate to contact Paul Calamita (804/716-9021) if you need further information regarding this topic.

Sincerely,

Andy Fairey
President

Cc: Hon. Henry E. Brown, Jr.



April 12, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Via Electronic Mail

Re: **For the April 13, 2005 Wastewater Blending Hearing Record**

Dear Representative Duncan,

On behalf of Texas Association of Metropolitan Sewerage Agencies, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,

Sharon Hayes
TAMSA President

Cc: Rep. Eddie Bernice Johnson
Rep. Kenny Marchant
Rep. Ted Poe

Urban Areas Coalition

City of Kansas City
City of St. Joseph
Little Blue Valley Sewer District
Metropolitan St. Louis Sewer District
City of Columbia
City of Moberly
City of Jefferson City
City of Independence
City of Macon
City of Springfield
City of Joplin

April 15, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Via Electronic Mail

Re: **For the April 13, 2005 Wastewater Blending Hearing Record**

Dear Representative Duncan,

On behalf of The Urban Areas Coalition (UAC), I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact Susan Myers, UAC Representative, at (314) 768-6366 if you need further information regarding this topic.

Sincerely,

The Urban Areas Coalition

Cc: Congressman Russ Carnahan
Congressman Sam Graves

VIRGINIA ASSOCIATION OF MUNICIPAL WASTEWATER AGENCIES, INC.
P.O. Box 51
Richmond, Virginia 23218-0051
804-716-9021 • Fax 804-716-9022

MEMBER AGENCIES
Alexandria Sanitation Authority
County of Arlington
Augusta County Service Authority
Blacksburg-VPI Sanitation Authority
County of Chesterfield
City of Danville
County of Fairfax
Hampton Roads Sanitation District
County of Hanover
Harrisonburg-Rockingham Regional Auth.
County of Henrico
Henry County Public Service Authority
City of Hopewell
Loudoun County Sanitation Authority
City of Lynchburg
City of Martinsville
Pepper's Ferry Regional Wastewater Auth.
Prince William County Service Authority
City of Richmond
Rivanna Water & Sewer Authority
City of Roanoke
South Central Wastewater Authority
County of Spotsylvania
County of Stafford
Upper Occoquan Sewage Authority
City of Winchester

ASSOCIATE MEMBERS
Town of Amherst
City of Bedford
Bedford County Public Service Authority
Town of Blackstone
Town of Bowling Green
Campbell County Utilities & Service Auth.
Coeburn-Norton-Wise Reg. Wastewater Auth.
Town of Culpeper
Fauquier County Water & Sanitation Auth.
Frederick County Sanitation Authority
City of Fredericksburg
Town of Front Royal
Town of Kilmarnock
Town of Leesburg
County of Powhatan
Rapidan Service Authority
Town of South Boston
Sussex Service Authority
Town of Tappahannock
City of Waynesboro

AFFILIATE MEMBER
District of Columbia Water & Sewer Auth.

CONSULTANT MEMBERS
Black & Veatch
CH2M Hill
Dewberry
Greeley and Hansen
Hazen and Sawyer
Malcom Pirnie
Parsons

ASSOCIATE CONSULTANT MEMBERS
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HDR Engineering
O'Brien & Gere
Olver Incorporated
R. Stuart Royer & Associates
Stearns & Wheler
URS Corporation
Wiley & Wilson

LEGAL COUNSEL
Christopher D. Pomeroy
AquaLaw PLC

April 12, 2005

BY E-MAIL

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Re: For the April 13, 2005 Wastewater Blending Hearing Record

Dear Chairman Duncan:

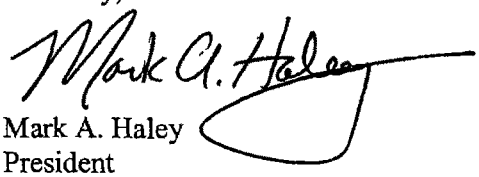
On behalf of the Virginia Association of Municipal Wastewater Agencies, which is a nonprofit association of 51 local governmental entities that collectively serve 95 percent of Virginia's sewered population, thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act.

Many local governments use blending to provide the maximum treatment possible during unpredictable, exceptionally heavy rains and snow melts, while still meeting permit limits set to protect public health and the environment. Blending prevents these high wet weather flows from harming biological treatment systems (which can take weeks to restore) and protects public health by preventing both sewer backups in buildings and sewer overflows outdoors.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that will enable our member communities to use blending to provide maximum treatment.

Please do not hesitate to contact our general counsel, Christopher D. Pomeroy, at (804) 716-9021 or chris@aqualaw.com, or me should you need any further information.

Sincerely,



Mark A. Haley
President

cc: VAMWA Members
Christopher D. Pomeroy, Esq.

THE WASHINGTON-EAST WASHINGTON JOINT AUTHORITY
60 EAST BEAU STREET
P.O. BOX 510
WASHINGTON, PA 15301-4514

RECEIVED
APR 1 8 2005

April 8, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources and Environment
2267 Rayburn House Office Building
Washington DC 20515

The Honorable Bill Shuster
1108 Longworth House Office Building
Washington DC 20515

The Honorable Jim Gerlach
308 Cannon House Office Building (CHOB)
Washington DC 20515

The Honorable Alyson Y Schwartz
423 Cannon Office Building
Washington DC 20515

RE: <u>Subcommittee April 13, 2005 Hearing on Blending</u>

Dear Representatives Duncan, Shuster, Gerlach and Schwartz:

As the Executive Director of the Washington-East Washington Joint Authority in Washington, PA, I am writing you regarding the upcoming hearing on blending being held by the Subcommittee on Water Resources and Environment on April 13, 2005. The Washington-East Washington Joint Authority municipal treatment plant was the blending case study analyzed in the report entitled "Final Report on Public Health Risks Associated with Wastewater Blending" (the "Rose Report") co-authored by Dr. Rose, on behalf of the Natural Resources Defense Counsel (NRDC), who is scheduled to testify at the blending hearing.

That report, which was widely circulated to Congressional offices by NRDC, concluded that our discharge, during blending, posed some type of health threat. The analysis in the report, however, is based upon several assumptions that, not only are inconsistent with the conditions of EPA's draft blending policy, but that plainly do not reflect the actual performance of our facility.

OFFICE: 60 EAST BEAU STREET, WASHINGTON, PA 15301 TELEPHONE: 724-225-1010
PLANT: ARDEN STATION ROAD, WASHINGTON, PA 15301 TELEPHONE: 724-222-5490

The fact is our facility is specifically designed to blend and produce very high quality effluent under peak flow conditions, which only occurs a few times a year. Furthermore, during blending events our plant meets all public health protection and water quality requirements set by the Pennsylvania DEP and incorporated in our NPDES permit. The NPDES permit, which authorizes our use of blending as a wet weather treatment option, incorporates specific criteria to protect the receiving stream, and contains all discharge requirements necessary to meet the federal Clean Water Act and the Pennsylvania Clean Streams Law. Our monitored blending operation has never violated those permit requirements. The "blended" effluent quality of our plant is actually better than the quality of the receiving waters under wet weather conditions.

The Rose Report contains the following major inaccuracies:

- The plant does not blend raw sewage, let alone two million gallons per day of raw sewage. All flows receive preliminary treatment and primary equivalent treatment allowing for effective disinfection of the entire blended flow before discharge.

- The 2 MGD rate is not representative of when our plant blends. This is a rare, extreme rainfall condition that has occurred three times in five years. Our typical blend event lasts for several hours and involves 5,000 to 50,000 gallons of flow.

- Blending generally occurs during the winter when contact recreation does not occur or during the summer when torrential rains produce receiving water flows that would be life threatening. The assumption that body contact recreation occurs under these conditions does not comport with reality.

- Our disinfection process is very effective at pathogen reduction whether the plant is blending or not.

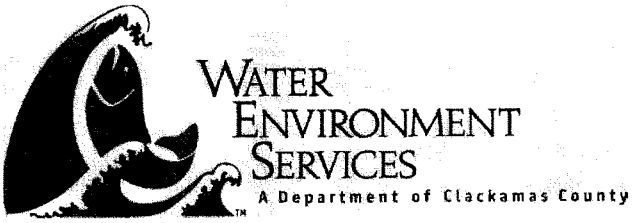
I have attached a letter I sent to EPA, in March 2004, concerning the errors contained in the Rose Report regarding our plant performance. The Authority is proud of the fact that we fully protect human health and the environment and achieve compliance with all applicable permit effluent limitations under this difficult operating condition. We would be glad to provide you any additional information you may need.

Very truly yours,

R. A. Dami
Executive Director

RAD/dsj
Enclosure

Cc: The Honorable John P. Murtha



R. Kent Squires
Director

April 12, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Via Electronic Mail

Re: **For the April 13, 2005 Wastewater Blending Hearing Record**

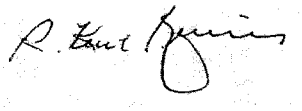
Dear Representative Duncan:

On behalf of Water Environment Services, a Department of Clackamas County, Oregon, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

If you need further information regarding this topic, please do not hesitate to contact me at 503-353-4560 or KentSqu@co.clackamas.or.us.

Sincerely,



R. Kent Squires
Director

copies:

The Honorable Earl Blumenauer, District 3
U. S. House of Representatives
2446 Rayburn Building
Washington, D. C. 20515

The Honorable Darlene Hooley, District 5
U. S. House of Representatives
2430 Rayburn Building
Washington, D. C. 20515

Martha Schrader, Chair, Board of County Commissioners, Clackamas County
Bill Kennemer, Vice Chair, Board of County Commissioners, Clackamas County
Larry Sowa, Commissioner, Board of County Commissioners, Clackamas County
Jonathan Mantay, County Administrator, Clackamas County

Robert A. Ficano
County Executive

Wayne County Building
600 Randolph - Suite 349
Detroit, Michigan 48226
(313) 224-0286
Fax (313) 967-6558

April 11, 2005

Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, D.C. 20515

RE: April 13, 2005 Hearing on Wastewater Blending

Dear Representative Duncan:

On behalf of Wayne County and the thirteen member communities in the Downriver Wastewater System, I would like to express my appreciation for your willingness to hold a hearing on the proposed EPA policy for wet weather wastewater blending under the Clean Water Act. Blending is practiced on an infrequent basis by the Downriver System, but this is an important part of the overall treatment process for handling peak flows during exceptionally heavy rain events and snow melt periods. The Downriver System has proven that the treatment plant can achieve all NPDES permit effluent limits in the wastewater discharge during blending events. The practice ensures that the high flows do not wash out the sensitive biological organisms which are used in the treatment process, and minimizes the potential for sewer back-ups into homes and businesses in the service area.

As you may know, the Wayne County Downriver System has recently completed a major, $290 million expansion and rehabilitation project for its wastewater treatment facilities as part of a federal Consent Decree issued in 1994. This work included elimination of excess infiltration and inflow in all thirteen member communities for a service area with a population of 285,000 people. In addition, the plant's secondary treatment capacity has been expanded to 125 million gallons per day, and a 15 million gallon tunnel facility has been constructed to retain/transport excess wet weather flows. As a result of these improvements, the Wayne County Downriver Wastewater system now has the capability to process peak wet weather flows for storm events up to a 4.42" rainfall over a 24-hour period.

April 11, 2005
Honorable John J. Duncan, Jr.
Page 2

Nevertheless, the System still experiences peak wet weather flows which, generally for short periods, require flow blending for the portion which cannot be handled by all treatment units. Expansion of the treatment plant to accommodate these relatively infrequent situations is not cost effective, nor is it environmentally beneficial since the plant fully meets all NPDES permit limits, even when blending is used. Furthermore, blending occurs only during extreme wet weather events when the receiving water (the Detroit River) is already receiving discharges from several upstream combined sewer overflow facilities. Additional expenditures at the Downriver Wastewater Plant to expand the treatment capacity would be a significant financial burden to the customer communities, and would divert funds from other important infrastructure improvements which are planned to be undertaken in the near future.

We commend you on your effort to undertake a review of the wet weather blending issue, and would welcome your support for the issuance of a national policy by U.S. EPA to allow the practice to continue. Please do not hesitate to contact Mr. Kurt Heise, our Director for the Department of Environment, if you need further information regarding this topic.

Sincerely,

Robert A. Ficano
Wayne County Executive

cc: Downriver Member Communities
Representative John D. Dingell
Representative John Conyers, Jr.
Representative Carolyn Cheeks-Kilpatrick
Representative Thaddeus G. McCotter
Representative Vernon J. Ehlers
Representative Peter Hoekstra
Senator Carl Levin
Senator Debbie Stabenow

Water Environment Federation

Written Statement Submitted to
House Committee on Transportation and Infrastructure's
Water Resources and Environment Subcommittee

For Subcommittee's Oversight Hearing on
EPA's Proposed Wastewater Blending Policy
April 13, 2005

Submitted on: April 29, 2005

The Water Environment Federation (WEF) respectfully submits this written statement on the occasion of the Water Resources and Environment Subcommittee's hearing on wastewater blending. Founded in 1928, the Water Environment Federation (WEF) is a not-for-profit technical and educational organization with members from varied disciplines who work toward the WEF vision of preservation and enhancement of the global water environment. The WEF network includes water quality professionals from 76 Member Associations in 30 countries. *www.wef.org*

WEF Supports Blending Effluent in Wet Weather Events to Protect Water Quality
WEF supports the practice of blending primary treated wastewater effluent with wastewater effluent that has received biological treatment as a sound, effective and reasonable method of managing peak effluent flows during extreme wet weather events. Blending has been used by wastewater treatment plants (WWTP) for decades and is one of many tools that should be available to help communities manage flows during these high flow events. Facilities that blend should meet the same water quality standards as they are required to meet during normal treatment processes, complying with federal and state water quality standards.

The discussion that follows will detail the following points:

- Wastewater treatment processes are complex and their efficiency is reduced during high flow events. Blending practices have developed over many decades as WWTP managers have sought to maximize the effectiveness of treatment both during and after wet weather events;
- EPA's proposed blending policy will prohibit discharge of untreated wastewater and require that both the technology and water quality requirements of the Clean Water Act are met, contrary to claims that it is a "rollback" of regulation;

- The proposed blending policy will strengthen regulation of wet weather wastewater management by bringing consistency to the NPDES permitting process, and incorporates public notice and review;
- The proposed policy recognizes the importance of facilities planning for wet weather treatment and will bring consistency and high standards to this process;
- Wastewater treatment has been the single most important factor in controlling water-borne disease outbreaks in the United States. Research to provide better understanding of the risks of pathogens during wet weather is very important, but there is presently no evidence that those outbreaks which do occur are caused by discharge of blended effluent that meets all permit criteria.

During extreme wet weather events when a WWTP experiences unpredictable surges in wastewater flowing to the treatment plant, the WWTP is faced with few choices for handling excess flows. A WWTP uses blending to avoid system back-ups and overflows of raw sewage, and to avoid by-passing either primary or secondary treatment altogether and diverting raw sewage into receiving waters. There is a misconception that additional biological facilities will provide additional treatment for wet weather flows. In fact, performance of biological systems in degraded during high flow events. If a WWTP were forced to send the excess flows through biological treatment, little treatment will be achieved and severe damage would result to the integrity of the biological treatment process and to the plant's operations. Disinfection continues to be used, if required, for all effluent prior to discharge.

With blending, the public is assured that all wastewater effluent is receiving the maximum treatment possible during large rainfall or snowmelt events and wastewater treatment facilities are providing the most public health benefit possible. Wastewater effluent that is treated through a blending process meets all water quality and health standards established by State and Federal regulations. A properly designed and managed WWTP will blend infrequently and only when there is an extreme wet weather event.

EPA's Blending Draft Policy Promotes Responsible Wet Weather Management
WEF strongly supports EPA's efforts to provide guidance on issuing National Pollutant Discharge Elimination System (NPDES) permits to WWTPs that use blending to manage wet weather events. National guidance on the practice of blending is critical to promoting responsible design and management of wastewater collection and treatment facilities and to establishing consistency among EPA regions and states in NPDES permitting issues. The draft policy is protective of water quality and encourages responsible and effective management of wastewater treatment facilities, through stronger and more consistent regulation of wet weather discharges.

Wastewater treatment facilities must have the flexibility to choose the best alternative for maximizing treatment based on a facilities planning approach that considers local watershed goals and local WWTP needs. This can be best accomplished through a facility planning process designed to result in maximum treatment of peak wet weather flows by matching the treatment processes to the need for treatment, maximizing

treatment of wet weather flows and use of resources. EPA's draft policy supports this approach.

EPA's policy requires that WWTPs seeking a permit to blend must ensure the following conditions are met:

1. All wastewater effluent prior to discharge must meet limits established to satisfy the technology requirements of the Clean Water Act and to achieve federal and state water quality standards. The policy ensures that WWTPs that are permitted to blend will not discharge blended effluent that meets a lower standard of water quality than it would otherwise be required by the Clean Water Act.

2. The treatment scenario that the WWTP proposes to use during a blending event must be detailed in its permit application and must be consistent with generally accepted practices (GAP) and long-term design criteria (LTDC). The facility planning process is central to EPA's draft guidance.

The draft policy states explicitly that in order to demonstrate a proposed treatment scenario meets GAP and LTDC, an evaluation of the cost-effectiveness of a reasonable range of alternative treatment scenarios may be necessary, including the construction of storage capacity or use of a supplemental treatment technology for diverted flows. If an evaluation reveals that there are cost-effective alternatives, a permittee would be required to pursue them.

Requiring that the permit application describe a WWTP blending proposal also ensures that both the EPA and the general public receive notice of the proposed treatment scenario and have an opportunity to review and comment on it. This provides a level of public scrutiny that does not otherwise exist in localities in which a WWTP blends without a permit setting out control standards, even if its blending practices satisfy the regulatory requirements for bypassing treatment facilities.

3. All effluent must receive minimum treatment at least equivalent to primary clarification. This ensures that WWTPs will not blend untreated wastewater with treated wastewater during wet weather events, even if this blended product would meet numeric permit criteria. Claims that discharge of untreated wastewater would be allowed under the proposed blending policy are untrue.

4. During a blending event, the WWTP must follow the treatment scenario stated in the permit and must fully utilize its biological treatment capacity, and storage capacity if it exists, prior to diverting flows. In other words, a WWTP must fully utilize all available facilities before blending, must do what it said it would do in its permit, and cannot deviate from the specific requirements and treatment scenario outlined in the permit.

5. WWTP that is permitted to blend must monitor for compliance of water quality standards during a blending event and report the date and volume and results of the

monitoring to regulators. This again ensures that both the regulators and public receive information about a WWTPs blending operation and whether it in fact supports federal and state water quality standards. If monitoring demonstrates that the blending scenario reduces the receiving waters' ability to meet water quality standards, the permitting authority would have the ability to require additional treatment.

And, finally,

6. A WWTP is required to operate its collection systems in accordance with federal regulations. This requirement prohibits a blending permit from being issued if there is excessive inflow and infiltration coming into a collection system. Under the draft policy, a WWTP could not use blending as a way of avoiding upgrades and repairs to its collection system.

In summary, the policy appropriately recognizes the importance of facility planning in optimizing wastewater collection and treatment facilities, capital improvements, and the operations and maintenance of WWTPs – and that a site-by-site approach to permitting blending treatment processes is a better approach to managing wet weather challenges. The policy is consistent with existing policies to maximize flows to wastewater treatment plants, thereby minimizing both SSO and CSO discharges of untreated or poorly treated wastewater. And importantly, implementation of the policy will prevent large investments in biological facilities that do not provide additional treatment during peak wet weather events.

Draft Policy Promotes Facility Planning to Manage Wet Weather Flows
EPA's draft policy emphasizes the importance of facility planning and evaluation in determining which tools a community should employ to manage wet weather flows, including blending. WEF believes that effective management of wet weather flows is best done at the facility level because of the high variability of factors contributing to peak wet weather events at individual facilities. A 'one size fits all' approach simply does not work in a wet weather situation.

While the draft guidance requires WWTPs to evaluate treatment scenarios based on "generally accepted practices and long-term design criteria," it does not define these terms, nor explain the evaluation method that WWTPs should use to establish whether these terms have been satisfied. With support from EPA, WEF is developing a guide to effective practices that WWTPs designers and operators can use when evaluating whether blending is a cost-effective approach for managing wet weather events. It will help WWTP professionals choose the best alternative treatment scenario using a facility planning approach that considers local watershed goals.

WEF believes that there should be a clear protocol that WWTPs follow that establishes practices and criteria for evaluating treatment scenarios to manage wet weather flows. WEF is developing this protocol through peer-review process. The protocol will include the following steps:

1. Define existing conditions at the WWTP facility (including dry and wet weather flows and capacity) and project future conditions (for example using population projections and local development plans);
2. Establish performance objectives for the collection and treatment systems;
3. Identify and evaluate wastewater treatment and collection alternatives to optimize treatment of wet weather flows;
4. Select the best technical alternative;
5. Develop an implementation schedule;
6. Identify and secure funding sources and determine customer costs.

The protocol will describe the preferred methods for completing each of these steps, integrate the collection system and the treatment plant together to perform optimally, and document the criteria for developing a facility plan for maximizing treatment during peak wet weather flows.

Draft Policy Contemplates that Alternative Treatment Processes May be Required
The draft EPA policy may require a WWTP to pursue additional supplemental treatment processes and collection system improvements if necessary. Additional treatment scenarios may consist of storage and equalization tanks to hold diverted flows until such time as secondary treatment could handle the flow; or a form of a supplemental physical or chemical clarification process to primary treatment. There are advantages and disadvantages to all of these methods and should be considered along with blending as part of the toolbox for wet weather flows management.

While storage tanks are conceptually easily understood, storage may prove difficult for many communities because of the size requirements necessary for siting adequate storage capacity. No matter how large a storage facility is constructed, circumstances will occur that can result in the storage capacity being exceeded and failing to store all flow. This situation occurred in Milwaukee, WI: Milwaukee built four storage tunnels to handle wet weather flows but the capacity was not enough to manage flows during an unusually high storm event. Some have suggested that due to changing climate patterns brought on by climate change, larger, more unpredictable storm events may become a more frequent occurrence, lessening the effectiveness of storage as a viable wet weather treatment process.

Technologies such as ballasted flocculation and chemical flocculation can treat rapidly varying flows and are beginning to emerge as supplemental alternatives to storage as a method of handling peak wet weather flows. Unlike biological treatment technology, these technologies can be used only when needed to handle additional wet weather flows. These or similar technologies can result in clearer effluents which improves disinfection effectiveness. Without the blending policy, these types and other types of technology may not ever be able to be considered for treatment wet weather flows in a cost effective manner. These supplemental technologies may be helpful in situations where communities anticipate frequent storm events. The capitol costs of these technologies can reach between $0.20 and $0.22 per gallon capacity.

Pathogen Questions are Being Addressed

Critics of the blending practice argue that it will cause increased amounts of pathogens to be discharged in receiving waters, thereby increasing the risk to public health. Blending has been practiced for decades and while there may be unanswered questions regarding what, if any, increased pathogen loads exist in blended effluent, there have been few, if any, instances reported of major pathogen-related disease outbreaks caused by blending. The Milwaukee cryptosporidium outbreak in 1993 that Dr. Joan Rose of Michigan State University cites in her testimony as being caused by pathogens found in human sewage, has not been traced to the practice of blending. By instituting EPA's draft blending policy, permitting authorities will be able to better control and reduce incidents of sewer overflows and bypasses because they would have a viable policy in place to require better management of wet weather flows.

Dr. Rose also testified that the number of specific types of illnesses appear to increase during wet weather periods. If one were to examine the numerous sources of pathogens which can be diverted to our waters during a rain event from urban and rural run-off and other paths, the pathogen load from blending would be a very small, insignificant portion of the total load. In fact, a 2003 report by the Water Environment Research Foundation (WERF) found that 71% of cryptosporidium oocysts loads entering the Milwaukee river watershed during rain events were the result of urban run-off, 28% from rural run-off, and only 1.5% from wastewater effluents. [1] In addition, it is important to note that if blending were not available, some WWTP may bypass both primary and secondary treatment altogether when managing excessive wet weather flows, increasing the public's risk exposure to pathogens beyond that which blending produces.

As Members heard from witness Alan Vicory, Executive Director of the Ohio River Valley Water Sanitation Commission (ORSANCO), utilities in ORSANCO's district have blended for decades. This led ORSANCO to adopt a formal blending policy in 1997. Over these many years, ORSANCO has had no reported cases of pathogen-related disease outbreaks caused by blending practices.

EPA is pursuing research into the question of pathogens, though the results are not expected until 2007. The research is being conducted by the Water Environment Research Foundation and includes experts from academia, the wastewater industry and the environmental community. While it is always difficult to prove a negative, WEF believes that the lack of reported pathogen-related disease outbreaks resulting from blended effluent suggests that in fact blending does not increase the pathogen content in discharged effluent enough to pose serious health risks. Therefore, WEF does not support delaying finalization of the blending policy until results of the research are known.

Conclusion

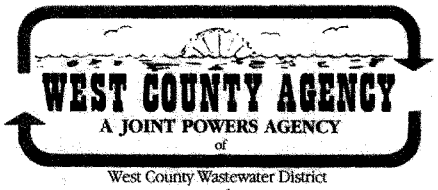
---

[1] *Sources and Variability of Cryptosporidium in the Milwaukee River Watershed*, Stephen R. Corsi, John F. Walker, Robert J. Waschbusch, Jon Standridge. Water Environment Research Foundation 2003 #99-HHE-2

The practice of blending wastewater effluent during peak wet weather events has been used for decades by wastewater treatment plan operators as an effective and safe solution for dealing with unpredictable spikes in flows. Blending has not been shown to increase public health risk and, in fact, EPA's proposed policy requires that current public health standards be followed. While WEF recognizes that this issue provokes controversy, we believe that both sides of the argument agree on the need to provide WWTP operators with practical tools to help them manage wet weather challenges. WEF believes that if a community undertakes an evaluation and feasibility analysis of all its options and demonstrates that blending is a viable treatment scenario, it should be allowed to blend during peak wet weather events. EPA's proposed policy follows this approach.

Many communities are anxiously waiting final guidance from EPA before moving forward with WWTP and collection system upgrades. WEF is hopeful that the controversy over whether to allow WWTPs the option to blend is resolved as soon as possible so that these investments can move forward in a context of certainty.

WEF has met with many stakeholder groups to discuss blending and many recognize the benefits of blending and the safeguards incorporated in the proposed blending policy to protect public health. WEF is prepared to meet with members of Congress, congressional staff, USEPA, and additional stakeholders to try to seek a solution so that communities can utilize blending in a safe and effective manner.



2910 Hilltop Drive
Richmond, California 94806-1974
(510) 222-6700

West County Wastewater District
and
City of Richmond Municipal Sewer District

April 8, 2005

Via Electronic and First Class Mail

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-379 Rayburn House Office Building
Washington, D.C. 20515

Re: For the April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan:

On behalf of West County Agency of Contra Costa County, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our member communities. With blending, our member communities can provide the maximum clean water treatment possible to exceptionally heavy rains and snow melt, while still meeting permit limits, which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me at (510) 222-6700 if you need further information regarding this topic.

Sincerely,

E.J. Shalaby, Manager
West County Agency

EJS:paw
cc: Water Environment Federation
West County Agency Board
West County Wastewater District Board
Richard McCoy, City of Richmond
Chris McAuliffe, Veolia Water NA

G: Gen Corresp: EPA Blending Policy

April 12, 2005

The Honorable John J. Duncan, Jr.

Chairman, Subcommittee on Water Resources & Environment

Committee on Transportation and Infrastructure

U.S. House of Representatives

B-379 Rayburn House Office Building

Washington, D.C. 20515

Re: For the April 13, 2005 Wastewater Blending Hearing Record

Dear Representative Duncan,

On behalf of West Bay County Regional Wastewater Treatment Plant, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for our wastewater treatment facility. With blending, we can provide the maximum sewage treatment possible in response to exceptionally heavy rains and snow melt, while still meeting permit limits. The permit limits are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

A prohibition of blending will result in the need for extremely expensive facility upgrades that will not result in any meaningful improvement to water quality or protection of the public health.

We commend you on your effort to review this important issue. We would welcome your support of a final national U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Please do not hesitate to contact me if you need further information regarding this topic.

Sincerely,

Kenneth C. Schott

Plant Superintendent

WEST VIRGINIA MUNICIPAL WATER QUALITY ASSOCIATION

April 12, 2005

The Honorable John J. Duncan, Jr.
Chairman, Subcommittee on Water Resources & Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives
B-376 Rayburn House Office Building
Washington, DC 20515

Via Electronic Mail

Re: **For the April 13, 2005 Wastewater Blending Hearing Record**

Dear Representative Duncan,

On behalf of the West Virginia Municipal Water Quality Association, Inc, I thank you for holding the April 13, 2005 hearing on wastewater blending under the Clean Water Act. Blending is a critical wet weather management practice for some of our member communities. With blending, our member communities can provide the maximum clean water treatment possible to unpredictable, exceptionally heavy rains and snow melt, while still meeting permit limits – which are set to protect public health and the environment. Blending protects public utility infrastructure by preventing washout of sensitive biological systems, and protects public health by preventing sewer backups into homes and businesses and collection system overflows.

We commend you on your effort to review this important issue. We would welcome your support of a final U.S. Environmental Protection Agency policy on wastewater blending that both will allow us to continue to provide the maximum wastewater treatment at the local level and increase publicly available information on blending.

Given the federal disinvestment in municipal water quality infrastructure funding, a decision to disallow blending would exacerbate federal unfunded water quality mandates while triggering new infrastructure investments that would provide extremely little benefit for the cost.

Please do not hesitate to contact Paul Calamita (804/716-9021) if you need further information regarding this topic.

Sincerely,

David Sago
President

C: Hon. Nick J. Rahall, II

January 21, 2005

Via Telecopier, Electronic Mail, U.S. Mail

The Honorable Michael O. Leavitt
Administrator
United States Environmental Protection Agency
Ariel Rios Building
Mail Code 1101A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Dear Administrator Leavitt,

The organizations below strongly support a final U.S. Environmental Protection Agency (EPA) Clean Water Act (CWA) blending policy. A national blending policy is essential to the cities across the country that use blending to manage and provide clean water treatment to unpredictable, exceptionally heavy rain and snow melt. As EPA knows, blending has been used by municipalities for decades to treat significantly increased wastewater volumes in wet weather, avoid serious adverse impacts on plant operations, and protect public health and water quality.

Activist groups are mischaracterizing EPA's November 7, 2003 blending proposal as an "environmental rollback" to further their agenda, which is consistently critical of EPA. Distorting the facts, these groups have called blending the "release of raw sewage," a threat to Americans and our nation's water resources, a reduction in CWA protection, and a departure from historic EPA practice.

The truth is that the blending policy only allows discharges that fully meet water quality standards set out in a public utility's CWA permit. Furthermore, blending protects public utility infrastructure, and prevents sewer backups into homes and businesses. A final blending policy will increase permitting consistency and make more information publicly available on a long-standing, EPA-approved wet weather management practice – far from a rollback. A final policy also will recognize that already scarce public resources must be used to support meaningful, environmentally beneficial water protection efforts at the local level.

We urge you to finalize a national blending policy as soon as possible based on the sound water quality and public health considerations that have supported this wastewater management practice for decades.

Sincerely,

AMERICAN PUBLIC WORKS ASSOCIATION
ASSOCIATION OF METROPOLITAN SEWERAGE AGENCIES
CSO PARTNERSHIP
NATIONAL ASSOCIATION OF COUNTIES
NATIONAL ASSOCIATION OF TOWNS AND TOWNSHIPS
NATIONAL LEAGUE OF CITIES
THE U.S. CONFERENCE OF MAYORS

THE WATER ENVIRONMENT FEDERATION
ASSOCIATION OF OHIO METROPOLITAN WASTEWATER AGENCIES
BAY AREA CLEAN WATER AGENCIES, CA
CALIFORNIA ASSOCIATION OF SANITATION AGENCIES (CASA)
COALITION OF GREATER MINNESOTA CITIES
FLORIDA WATER ENVIRONMENT ASSOCIATION UTILITY COUNCIL
MARYLAND ASSOCIATION OF MUNICIPAL WASTEWATER AGENCIES
MINNESOTA ENVIRONMENTAL SCIENCE & ECONOMIC REVIEW BOARD
NEW ENGLAND WATER ENVIRONMENT ASSOCIATION
NEW JERSEY ASSOCIATION OF ENVIRONMENTAL AUTHORITIES
NEW JERSEY WATER ENVIRONMENT ASSOCIATION
PENNSYLVANIA MUNICIPAL AUTHORITIES ASSOCIATION
SOUTH CAROLINA WATER QUALITY ASSOCIATION
TENNESSEE ASSOCIATION OF UTILITY DISTRICTS
TENNESSEE MUNICIPAL LEAGUE
TENNESSEE WATER QUALITY MANAGERS ASSOCIATION
TEXAS ASSOCIATION OF METROPOLITAN SEWERAGE AGENCIES
Tri-TAC (A TECHNICAL ADVISORY COMMITTEE SPONSORED BY LEAGUE OF CALIFORNIA CITIES, CASA, & CALIFORNIA WATER ENVIRONMENT ASSOCIATION)
VIRGINIA ASSOCIATION OF MUNICIPAL WASTEWATER AGENCIES
WEST VIRGINIA MUNICIPAL WATER QUALITY ASSOCIATION

cc: Benjamin Grumbles, Assistant Administrator for Water, U.S. EPA
James Hanlon, Director, Office of Wastewater Management, U.S. EPA

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