#### BEFORE THE

#### DELAWARE RIVER BASIN COMMISSION

\* \* \* \* \* \* \* \* \*

IN RE: HYDRAULIC FRACTURING ACTIVITIES

IN THE DELAWARE VALLEY

\* \* \* \* \* \* \* \*

BEFORE: WILLIAM FORD, Hearing

Officer

Steven Tambini, Executive

Director, Delaware River

Basin Commission

HEARING: Thursday, February 22, 2018

3:00 p.m.

LOCATION: Lehigh Carbon

Community College

4525 Education Park Drive

Schnecksville, PA 18078

SPEAKERS: Donald Miles, Karen Feridun,

Bryn Hammarstrom, Joseph Hoffman,

Stephanie Catarino Wissman, Jeanne

Cimorelli, Jodi Roggie, Beth Kelley,

Mark Lichty, Harriet Shugarman,

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Bill Shaughnessy, Ling Tsou, Dyanne
Jurin, Edith Kantrowitz, Blayne
Diacont, Thomas Stinnett, Nicole Jacob,
Mary Ellen Cronly, Bruce Rosen, Faith
Zerbe, Ned Fink, Lois Ann Oleska, James
Orben, Ned Heindel, Gail Domalakes,
Tara Zrinski, William Buskirk, Jr., Sam
Bernhaardt, Janet Little, Sue Mickley,
Tracy Carluccio

Reporter: Gregory S. Jones

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6 1 PROCEEDINGS 2 3 HEARING OFFICER: 4 All right. Let me cover 5 preliminary comments as people are 6 settling in. 7 Good afternoon, everybody 8 and welcome. My name is William Ford, 9 F-O-R-D, and on behalf of the Delaware 10 River Basin Commission, I welcome you 11 to today's public hearing. 12 I will be serving as the 1.3 Hearing Officer for this proceeding. 14 And just to be clear, I am not a 15 member. I am not a member of the DRBC 16 staff. I am not a member of any 17 environmental group. I do not own any 18 property over natural gas rock 19 formations. 2.0 I'm a retired 21 Pennsylvania Judge. Actually, I was on the Court of Common Pleas of Lehigh 2.2 23 County, and this is part of Lehigh

County. So I used to be a Judge here

in Lehigh County, and I retired two

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years ago.

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The DRBC has engaged me to conduct these hearings on its behalf to provide opportunities for --- for oral comment on the Commission's draft rules.

It is my intention to provide an orderly, safe and civil forum that allows for the creation of a clear recording of these proceedings.

At the end of my comments, which will last only a few minutes, I really see today as an opportunity, and I want to explain that to you. That'll be right at the end of my comments, and there may be some things that you're not aware of as far as how this is an opportunity for you. So bear with me. That'll be at the very end. I'll identify it as the comments pertaining to opportunities.

I ask that everybody keep their cell phones off or anything else electronic that could make noise during the proceedings here today. And just a

few remindings about building safety.

In the unlikely event that we would need to evacuate this area, please make a note of the emergency exits here and we're right to the outside then. You can see the outside as soon as you step out into the hallway.

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Please keep all aisles and exits clear throughout the hearing. Before we start, on behalf of the DRBC, I would like to thank our hosts, Lehigh Carbon Community College, and also, I would like to thank the Pennsylvania State Police for the security that you're providing here today, and for your presence.

What I'd ask you to do, please, would everybody rise if you can and we're going to start with the Pledge of Allegiance to the flag.

PLEDGE OF ALLEGIANCE RECITED

#### HEARING OFFICER:

Okay.

Thank you, ladies and gentlemen. Okay.

At this point, I'm actually going to read very closely from what I have in front of me for accuracy's sake, so please bear with me as I do that.

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The draft rules that are the subject of this hearing were proposed by the Delaware River Basin Commission to amend the Commission's administrative manual and special regulations regarding hydraulic fracturing activities and to provide for additional clarifying amendments to the Commission's rules of practice and procedure.

A notice of proposed rulemaking along with the text of the draft rules and supporting documents were posted on the DRBC website on November 30, 2017 and have been published in the Federal Register and basin state registers.

Information about the draft rules and the public process has and will remain available on the

Commission's website throughout the process.

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As a total layperson in this area, I found the website very helpful and very informative. If you haven't done so, you may want to visit the website.

As set forth in the notice of proposed rulemaking by a resolution for the minutes on September 13th, 2017, the DRBC Commissioners directed the Executive Director to prepare and publish for public comment a revised set of draft regulations to include, A, prohibitions relating to the production of natural gas utilizing horizontal drilling and hydraulic fracturing within the basin.

B, provisions for ensuring the safe and protected storage, treatment, disposal and/or discharge of wastewater within the basin associated with horizontal drilling and hydraulic fracturing for the production of natural gas where

permitted. And C, regulation of the inter-basin transfer of water and wastewater for purposes of natural gas development where permitted.

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If adopted, the draft rules would add to the Commission's regulations a section on hydraulic fracturing in shale and other rock formations. This section would prohibit high volume hydraulic fracturing in such formations within the Delaware River Basin.

It would also require review under the Delaware River Basin Compact of any project that involves, first, the exportation from the basin of surface water, groundwater, treated wastewater or mine drainage water at any rate or volume for use in hydraulic fracturing or hydrocarbon bearing rock formations outside the basin.

Or, second, the importation into the basin and treatment and discharge within the basin of wastewater from hydraulically

fractured oil and gas wells.

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We would also establish standards for the treatment and disposal of wastewater from hydraulically fractured oil and gas wells.

The Commission also proposes to amend its administrative manual, rules of practice and procedure, by the addition of project review classifications and fees related to the management of produced water from --- from hydraulic fracturing, hydrocarbon bearing rock formations.

Minor amendments to the project review classifications unrelated to hydraulic fracturing are also proposed. Copies of the proposed rules can be found on the DRBC website.

This is one of six public hearings on this matter. In addition to accepting oral comments at these hearings, the Commission is accepting written comments through 5:00 p.m. on Friday, March 30th.

Written comments will receive the same consideration as oral comments. Written comments can be submitted online using the link that can be found on the DRB --- DRBC website.

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If you do not have access to a computer or to the internet and you would like to submit written comments, you may request an exception by writing to the DRBC at --- and I'll say the address twice and I'll say it slowly. This should be sent to the attention of the Commission Secretary, DRBC, P.O. Box 7360, West Trenton, New Jersey 08628. So that's, Attention Commission Secretary, DRBC, P.O. Box 7360, West Trenton, New Jersey 08628.

Ladies and gentlemen,
today's proceedings are being
videotaped over there to my left and
recording over to my right, and a
transcript will be created that will be
--- that will become part of the

decision-making process, and will become part of the record for the proposed rules. The electronic recordings are being made to enable the DRBC Commissioners to see and hear your comments even though they cannot or do not attend any of the six hearings --- I don't know if they are or not, but I'm presuming that they're not. And to allow the DRBC staff in consultation with the Commissioners to prepare a detailed comment and response document that addresses the issues and concerns that you raise.

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And here is the procedure that will follow. First of all, the Commission thanks all who have registered in advance, either to attend or to attend and speak today. And some people have actually signed up today to speak that did not register previously and that's fine.

Your doing so has helped the staff to prepare for these proceedings. Yeah. Let me say at this

point, ladies and gentlemen, I've been involved --- this is the fifth of the hearings that I've been involved in and as a layperson, they've been --- these hearings have been very educational for me.

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It's been almost like a science project for me sitting in on these and the people have come forward and have given very factual things in terms of how matters affect them and other things, and scientific things.

Wealth of information that has been given and will continue to be given.

And one of the things that amazed me is that even as the comments went on, new things were added that somehow had not been stated previously. So we look forward to this. I know I do, as I get my education here on what's happening above Allentown, Pennsylvania. Okay.

Let's see. And somewhat below, too.

All right. So I've ---

personally, I found the comments to be

very thoughtful and I thought that was very, very helpful. What I'll do is, I will call speakers in the order that people have signed up previously, and I have that list here. And then after that, we'll go to the people who have signed up today.

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And the way this reads is, that those who registered will be able to speak today and who have not already spoken at previous hearings.

Then let's see here.

Anyone in the audience --- I think this will very manageable because it's not a large number. After we finish with the people that have signed up, if anybody wishes to add comments, if time permits, you'll be permitted to do that and hopefully it would be, you know, a different perspective or something that we have not heard before.

All right. What I'll do is, I'll call three names consistently so that you'll know that you'll be the next speaker or two down the line, so

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ask you to engage in the speaking,
we're going to give each speaker a
three-minute time limit. We have stuck
with that and we're going to continue
to speak --- stick with that in
fairness to everybody that has
testified previously and will testify.

A lot can be said in three minutes, so if you make your comments concise, it can be a very meaningful three minutes.

Okay. If you exceed the permitted time, you're going to hear a buzzer. All right? And I will also ask you to stop speaking. We have the time posted up there, and sure enough, there is a buzzer. Okay? And you're going to find me very strict on that. I'm going to stop and very respectfully ask that we move to the next speaker. All right?

Okay. Remember, that if you do try to continue speaking after

three minutes, you will be taking the time from someone else, so it really is a matter of courtesy and manners, and --- but, however, you'll have the opportunity to follow up in writing, you know, under the procedure that I told you about earlier.

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While the subject matter of this hearing is something that many people are passionate about, the purpose of this hearing is not for public demonstrations.

The audience is asked to remain quiet while each commentator speaks --- I should say each commenter speaks --- so that the court reporter to my right and the recording devices can produce an accurate record.

Interrupting --
interrupting another's testimony with

loud objections, or demonstrations or

other disruptions is prohibited.

Speakers are asked to state their names
when they come forward, even though

I'll call the name at first, and that's

for the recording purposes so it makes a nice recording.

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You're asked to direct all comments to me. However, if you wish to direct them over toward the camera, you're welcome to do that.

Please stay right there at the podium because that's what's being recorded, ladies and gentlemen. And it really doesn't matter how many people in the audience are speaking because you'll be recorded one on one with the camera and all of your comments will be recorded and typed into a transcript.

So the size of the audience, in the sense of recording, does not matter. You're also asked after you state your name, to state your affiliation.

Okay. And, of course,

I'm somewhat repetitive here. Please,

offer your comments in a respectful

manner and be respectful of the other

speakers and attendees.

If, as a part of your

comments, you ask a question, please do not expect a response during the hearing.

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Questions and comments will be addressed as part of the comment and response document that will be prepared by the Commission after the comment period is closed, and I'm certainly not equipped to be answering any questions, ladies and gentlemen.

So we're going to restrict this to your input and there won't be any input from this end of it.

We are scheduled to complete at seven o'clock and we'll just see how matters proceed.

Okay. What is next?

After all public input has been received, the DRBC staff and the Commissioners will develop a comment and response document that addresses each of the commenter's concerns.

The Commissioners will consider changes to the proposed rule in response to the comments received

and will hold a vote to either approve the rules as proposed, approve the rule with changes or reject the proposed rules.

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The decision makers on this and all rulemakings by the Commission, are the Commissioners themselves who may act through their appointed alternates.

The Commissioners are the governors of the four basin states,

Delaware, New Jersey, New York and

Pennsylvania, and also, on behalf of

the federal government, the Division

Commander of the North Atlantic

Division of the U.S. Army Corps of

Engineers.

Okay. And now let me identify as the opportunity, ladies and gentlemen, if you think of where we are in the sense of politically right now, we have a new Governor in New Jersey. And I went to the website to confirm this. The Governor of New York and the Governor of Pennsylvania are both up

for election in 2018 --- in 2018. I
think the Governor of Delaware is there
for a while yet. Okay. That's not to
say they're doing a bad job or a good
job. The point is this, I think,
becomes a crucial time in deciding what
these rules should be.

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So this really is an opportunity for you perhaps to have an impact in the comments that you make. So please keep that in mind.

And just in meeting the staff, I really believe that you're going to get fair summaries of the things that are said here that are presented to the Commissioners.

All right. Okay. We are ready to proceed and what I'm going to do is, go to the people that have signed up previously for this meeting.

And here is the order of the first three speakers. Donald Miles would be first and then --- Mr. Miles. Okay. Recognize Mr. Miles. Then Carol Feridun and then Bryn Hammarstrom.

Okay. Good. If you just stay in place and then we'll call your name again when it's time. Okay. Mr. Miles, good to see you.

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### MR. MILES:

Good afternoon.

# HEARING OFFICER:

Good afternoon.

# MR. MILES:

My name is Donald Miles and I live in Bethlehem, Lehigh County. I'm here today speaking for the 32,000 members of the Penn State chapter of the Sierra Club on the Board I sit, and for the 2,000 members of the Lehigh Valley Sierra Club who live in Lehigh Northampton, Carbon Counties.

The Sierra Club supports
the Commission's proposed regulation in
banning high volume hydro fracking
within the Delaware River Basin. The
Sierra Club opposes the Commission's
proposal to permit the extraction and
transfer of water from the basin
streams, wetlands and groundwater to

fracking drilling sites outside the basin. Water for fracking is in ever shortage supply in the Susquehanna River basin to our west, and the per well water needs of each well now approach 20 million gallons.

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Such water extractions and export is a consumptive use of millions of gallons removed in the Delaware basin that will never be returned. This removal will obstruct the seasonal flow regimes, and ecological habitats and species of the streams and wetlands, change the morphology of streams, increase water pollution due to the inability to dilute pollutants and affect the drinking water supplies during frequent dry spells within the basin.

The massive infrastructure needed of pipelines, pumps, rotors and truck conveys will also have adverse impacts upon streams, forests and water quality in the region.

The Sierra Club also opposes the Commission's proposal to permit produced wastewater from fracking operations to be discharged to the lands and waters of the basin.

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The proposal would permit untreated and diluted fracking water and the Commission's own proposal admits that such water poses significant risks to human health and environmental sustainability, but proposes inadequate regulations to permit such degradation to the streams.

The proposal seeks to regulate those fracking chemicals under EPA established levels, but those EPA standards do not cover all the chemicals that are at present in frack water.

For instance, New York regulator --- New York regulators have listed 154 chemicals in flow back water not regulated by the EPA, and the EPA itself has identified over 1,600 chemicals in fracking water.

We also want to point out the great concern of the fact that flow back water contains concentrated radioactive substances such as variants found in uranium-238, radon, which is water soluble in our streams and wetlands. Neither the DRBC nor the state environmental agencies know how to monitor or even accurately measure these radioactive substances.

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In short, the proposal to permit stream and groundwater extraction and to permit wastewater disposal within the Delaware River basin are entirely inconsistent with the DRB's proposal to ban fracking from the basin. It's like declaring your car is dangerous to the environment, but the exhaust is okay.

If fracking is too

dangerous to the health and welfare of

the streams, lands and residents of the

basin, fracking's tagalongs of massive

water extractions and wastewater

disposal are also too dangerous for the

health and safety of our streams, lands
and people.

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# HEARING OFFICER:

Okay. Thank you, Mr.

Miles. And please excuse my
mispronunciation of names. With a name
like Ford, I'm not challenged on them
anyway. Okay. The next three speakers
will be Karen Feridun?

## MS. FERIDUN:

Yes.

## HEARING OFFICER:

Okay. Feridun, Karen

Feridun. And then there will be followed --- she'll be followed by Bryn Hammarstrom and then Joseph Hoffman.
Okay. Ms. Feridun, please.

### MS. FERIDUN:

Thank you. My name is

Karen Feridun. I'm the founder of

Berks Gas Truth and I live in Berks

County in Kutztown. The Commissioners

are to be commended for the decision to

ban high volume hydraulic fracturing

throughout the Delaware River basin.

The draft regulations
document contains a background section
that states the use of hydraulic
fracturing to extract oil and natural
gas from shale formations presents
risks, vulnerabilities and impacts to
the quality and quantity of surface and
groundwater resources that have been
documented extensively, including
comprehensive reports by the New York
State Department of Environmental
Conservation and the United States
Environmental Protection Agency, among
others.

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These reports identify
the risk to water resources associated
with each of the steps in the hydraulic
fracturing water cycle. The document
goes on to discuss those steps that
include both water acquisition and the
treatment of fracking waste. So it is
impossible to understand why the
Commission, in the same breath that it
bans fracturing for all the right
reasons, chooses to regulate water

extraction in the processing of fracturing waste.

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Pennsylvania has
experience with fracking that other
watershed states do not have. It's
been irresponsibly over the state,
fracking. Only six studies have been
done.

Ultimately, as has been the case with bans and moratoriums across the globe, Pennsylvania's experience helped form the decision to ban fracking in New York. Delegations from New York came to Pennsylvania and witnessed the damage firsthand.

There are more than 1,000 studies on fracturing. Much of the data and the peer reviewed science the Commissioners consulted comes from Pennsylvania.

And so Pennsylvanians know that fracking is simply not worth it. They know what it's like to see their private water supply permanently fouled. They know what it's like to

see cattle die within an hour of drinking from a contaminated stream.

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They know what it's like to stand in line at a volunteer water bank every week for a few gallons of clean water, in some cases, for years with no end in sight. They know what it's like to try to sell property with a water buffalo in the front yard and they know what it's like to submit water complaints to state regulators that fall on deaf ears.

when the Commission chooses anything short of a ban on fracking, on water extraction and on waste processing, Pennsylvanians know that it does a disservice to every community in the watershed that will quickly be exploited by an industry that has always taken a mile when it has been offered an inch and many times when it hasn't.

Pennsylvanians know that the water of the Delaware River Basin for fracking will never return to us as

potable water. The water we get back will be in such a highly polluted condition that we'll have no choice but to store it or dispose of it.

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That is effectively an unsustainable cycle the Delaware River Basin Commission is proposing in the staff regulations. The Commission must remain its position and ban all of it. Thank you.

## HEARING OFFICER:

Thank you. Bryn

Hammarstrom would be next, and then

Joseph Hoffman and then Stephanie

Catarino Wissman. All right. This is

Mr. Hammarstrom? Okay. Sorry.

### MR. HAMMARSTROM:

Bryn Hammarstrom. Not

--- I'm a member of Pine Creek

Headwater Protection Group, actually,

Vice President and Treasurer, but I'm

not speaking on their behalf, out of

Wellsboro, Pennsylvania. I grew up in

the Lehigh Valley, specifically near

Limeport. I drove down to this hearing

because I care deeply about the Lehigh Valley.

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County where the incidental side effects occur periodically, bad apple subcontractors caught dumping or spreading dirty water in our forests or along roadways. Wells and waters being contaminated. Heavy truck traffic, heavy truck dust, truck accidents, et cetera, but the --- so our group, Pine Creek Headwater Protection Group, work to stop a company misnamed Clean Earth from dumping a half million tons of drilling returns to extend the Wellsboro Airport runway.

I spent three days in DEP file reviews, one in Harrisburg, two in Williamsport on the metals, salts and radiation in the drilling return. We were successful. Unfortunately, DEP allowed Clean Earth to withdraw its proposal so all of our documentation was for naught until someone else tries to send and run around Pennsylvania's

constitutional guarantee of clean air and clean water.

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So while I did not study the produced water itself, the drilling returns contain the various contaminants, heavy metals, salts, radioactivity, and all the chemicals added by the frackers that were just referred to by Ms. Feridun. I --- the SRBC does not allow oil and gas companies to withdraw groundwater, but it does give river permits.

I certainly would oppose the Delaware River Basin Commission from allowing either water withdrawal or --- river water withdrawal, or surface water or groundwater.

The damage done in the Susquehanna River Basin Commission in allowing the water withdrawals and then dealing with the 4 million gallons per day limits that they allow Shell and Seneca are producing millions of gallons of water, which originally they dumped on roadways as dust control and

took to local sewage treatment plants until belatedly the SRBC banned those two methods.

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The dirty --- I'm sorry.

Let's see here. The other issue

besides clean air and clean water from

the methane lost in the production,

which would be encouraged by DRBC

allowing its waters to expand fracking

in the Susquehanna basin, is the idea

of liability. And I think all of this

will result in long drawn out court

cases by people whose water was ruined.

Thank you.

### HEARING OFFICER:

Okay. Thank you,

sir.

Thank you, sir. Joseph Hoffman would be next, and then Stephanie Catarino Wissman and then --- is Jeanne Cimorelli here?

#### MS. CIMORELLI:

Yes.

### HEARING OFFICER:

She is here. Okay. And then she would be next. All right.

Mr. Hoffman, please. Thank you, sir.

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with this idea.

# MR. HOFFMAN:

My name is Joe Hoffman.

I am not representing an organization at this time because I just recovered from kidney transplant surgery.

However, I did work for 15 years for Wildlands Conversancy and Berks County Conversancy, so I'm a little familiar

I wanted to try something different for the benefit of the group today, and it's something that I had practiced 20 years ago in Berks County when I was at Berks Conversancy.

A group that is not very well represented at any of these public hearings are our children, our students, high school level, college level especially, but even of a younger age. And yes, they care very much about this issue. Their comments --- I went to eight different schools.

The schools involved were Emmaus, Parkland, Whitehall,

Northampton, Nazareth, Freedom, Easton and Liberty, all of which are very familiar to folks in the Lehigh Valley. What they had to say was very enlightening to me. For example, they identified properly that there was a Delaware River Basin Commission narrative saying that they want to ban hydraulic fracking in this region.

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And their response was very simple, how can you say that if you're going to allow water transfers in and out? They said it makes no sense. You have a beautiful resource that we all use. We use it for parks, recreation, open space, the environment.

We have memories in all these places, every stream, every park, every hollow has our name on it and you're going to damage it and you know you're going to damage it. You say you don't want to and then in the next breath, you do. How can we explain that? How can we justify that? And I

really couldn't. I just listened and I listened to a surprising consensus among younger folks that, yes, indeed, they do know what fracking is.

And, yes, indeed, they do know how important the Delaware River basin is. One of them said to me, I think the only one more important in the whole United States is the Mississippi River. And they said that because their family, some relatives live on the Mississippi River.

So I would venture to guess that the Commission needs to find a way to have a youth forum to talk about this issue with people who really are going to be affected by whatever decision DRBC makes. If it's an extra meeting, if it's some other method, that's up to them, but they must do it. Those people need to be heard.

#### HEARING OFFICER:

Thanks, Mr. Hoffman.

Thank you, sir.

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MS. CATARINO WISSMAN:

38 1 Stephanie Catarino 2 Wissman, and then it would be Jeanne 3 Cimorelli and then Jodi Roggie. Probably mispronounced it. We'll find 4 5 out. All right. Okay. And I'm sorry. Let's see. This is Stephanie Catarino 6 7 Wissman? MS. CATARINO WISSMAN: 8 9 Yes. 10 HEARING OFFICER: 11 Okay. Ma'am, please. 12 MS. CATARINO WISSMAN: 1.3 My name is Stephanie 14 Wissman. I'm the Executive Director of 15 API Pennsylvania, a division of the 16 American Petroleum Institute. Our 17 number one priority at API is to 18 provide energy in a safe, 19 scientifically sound manner also having 2.0 the least possible impact on the 2.1 environment. Our members take this 2.2 responsibility very seriously. 2.3 API is one of the federal 2.4 and state agencies to develop, design

standards, recommended practices and

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guidance initiatives to bolster operational integrity and ensure the health and safety of our communities and the environment.

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To this end our industry supports effective, science based regulation that fosters safety in air, land and water, rules that are clear with tangible benefits, and to work in concert with safe and responsible energy development.

Regulation and oversight are important to U.S. natural gas and oil restoration development and production, and our industry is well regulated by both federal and state governments.

The DRBC also centers its watershed management efforts on sound science. Accordingly, it is imperative that any final decision on the proposed special regulations regarding natural gas development activities be based on sound science as well.

The science clearly

indicates that energy production can and is being done right and that hydraulic fracturing is not leading to widespread systemic effects to drinking water resources.

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EPA's exhaustive six

years \$30 million study's finding of no

widespread effects from hydraulic

fracturing activities to drinking water

quality is a reflection of the

effectiveness of these practices.

A wide variety of recent reputable studies by both government agencies and academic institutions also support the conclusion that hydraulic fracturing is not a major threat to drinking water. Perhaps most importantly, the neighboring SRBC's extensive real time water quality monitoring network consistently shows that natural gas operations in the Commonwealth are not considered to lead to negative impacts on water quality in the basin.

A recent PWC study showed

that oil and natural gas production in Pennsylvania supports more than 320,000 jobs in the Commonwealth, including direct industry jobs as well as jobs in the wholesale, retail, construction, manufacturing and other sectors. As API is a standard setting organization, we play a central role in leading the development of industry standards to protect our environment.

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In fact, API has

developed a series of hydraulic

fracturing recommended practices that

continue to be revised and updated.

With these standards guiding our ever

improving industry practices, and

development and implementation of an

extremely robust regulatory program

managed by PA DEP and overarching

federal regulations all working

together, we have an effective

structure that allows for the essential

development of Pennsylvania's natural

gas resources while also protecting our

treasured environmental resources.

1 I want to urge the Commission to consider the scientific 2 data, the available studies, both state 3 4 and federal regulations and also 5 industry best practices and the 6 significant technology and engineering 7 advancements in this industry that make 8 safe and responsible development 9 possible. We have seen it work across 10 the Commonwealth and all over the 11 nation. We can have safe and 12 responsible development in the Delaware 1.3 River basin as well. 14 HEARING OFFICER: 15 Okay. Thank you, ma'am. 16 All right. Jeanne Cimorelli would be 17 next, and then Jodi Roggie and then 18 Beth Kelley. Okay. Jeanne Cimorelli; 19 is that right? 2.0 MS. CIMORELLI: 2.1 Yes. 2.2 HEARING OFFICER: 23 Okay. Ma'am, please. 2.4 MS. CIMORELLI: 25 Good afternoon. My name

is Jeanne Cimorelli. I am a lifelong resident of Orange County, New York and I made a special long trip to be here today to speak to you guys.

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I'm a regular visitor to the Delaware River. I'm an avid outdoor person, be it kayaking, I'm a wildlife enthusiast, bird watching, an arborist and photographer. And I visit the Delaware River all the way from north, all the way to the Delaware Bay to the parks that are down there.

Back in January, I
attended one of the Commission's public
hearings and I listened to comments
from both sides of debate, statements
ranging from save the environment,
protect water to don't tell me what to
do with my land and you're
overreaching. And I sat and I listened
and in today's political climate, I
said, what is the common denominator?
What's the common ground between these
two sides?

And I came up with one

thing, and that one thing is the river. Even people who supported fracking on that side, they said, hey, now I'd be the first one to tell you, I don't want to see anything happen to the river.

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and the preservation of the river is one common ground between both sides.

Nobody wants to see anything happen to it. From what they said on the other side, on the pro fracking side, they said don't tell me what to do with my land.

They wanted to be able to sell rights or whatever. That to me is --- is --- that would benefit just a small number of property owners. If something were to happen with that storage, wastewater, byproduct storage of fracking hydraulics, it would be the municipalities and our first responders and the resources.

So while a few people may benefit from a monetary gain, it's going to be many people that have to

support the cleanup.

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And to me, it's not a matter of if, it's a matter of when, because things do fail.

So in closing, I'd like to say that we here on the east coast have an abundance of water and I don't want the Commission to be complacent by thinking --- by not giving due respect to this valuable asset we have, this precious asset of clean water.

Many people on the west coast and drought-stricken countries would agree that you should do your best to safeguard this precious river and this precious asset that we have.

So to that end, I would urge you to continue to ban fracking and also a ban on any wastewater storage, byproduct storage and therefore, really most anything that could absolutely threaten this precious, precious clean water that we have. Thank you.

HEARING OFFICER:

1 Thank you, ma'am. Okay. 2 Next will be Jodi Roggie, and then Beth 3 Kelley and then Mark Lichty. Did I 4 mispronounce your last name? 5 MS. ROGGIE: 6 Roggie. 7 HEARING OFFICER: 8 I guess I did. Roggie. 9 Okay. You're kind. All right. 10 Roggie, please. 11 MS. ROGGIE: 12 My name's Jodi Roggie. 1.3 I'm here as a private citizen, although 14 I support numerous environmental 15 organizations. I live in Lower Saucon 16 Township. I totally support the 17 proposed ban on fracking drilling, and I'm confused and concerned about the 18 19 draft regulations that address storing 2.0 frack wastewater here and those have 2.1 addressed that our fresh water could be 2.2 used in fracking elsewhere. 2.3 The only way I can 2.4 support addressing these issues, 25 have a total ban on all fracking

related activities in our watershed.

No drilling, no accepting fracking wastewater, no withdrawal of fresh water. Anything else is too much potential for introducing contamination to our groundwater.

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It's so easy to take for granted that we'll have safe water, but once I started learning about fracking, I realized that many businesses place their quest for monetary profit above the health of citizens and the protection of our environment.

The only way to protect our watershed is to prohibit all activities associated with fracking.

It's vital to the health and wellbeing of the 16 million folks who depend upon water from the Delaware River basin.

Frack wastewater is a toxic kind of carcinogen. Studies by Yale and many others have found that this waste contains chemicals that increase the risk of cancer and it's well known that radioactivity exists in

fracking wastewater. Studies by New York State show that among the numerous radioactive elements is the longest lived isotope of radium. Any storage of fracking wastewater is just an accident waiting to happen.

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The materials available to contain waste will surely degrade before this radiation is secured. And remember, we experience earthquake tremors in our watershed, which is just another opportunity for a containment site to be disrupted and release the waste.

We've had an environmental rights amendment in Pennsylvania since 1971. It clearly states our right to clean air and pure water and since Pennsylvania is a member, the DRBC should also be bound to defend these rights now and for generations to come.

Your existing water code requires consideration of alternatives for projects that withdraw wastewater,

with one of these alternatives always being no project.

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Since our DEP and EPA has found that fracking operations have contaminated numerous wells, how can we ever consider any circumstance where watershed resources can be used to make fracking possible? Please ban all fracking.

### HEARING OFFICER:

Thank you, ma'am. Beth Kelley, and then Mark Lichty and then Harriet Shugarman. Okay. Is this Ms. Kelley?

### MS. KELLEY:

Yes. Before I start I just have to ask a question. Will the clock start when I introduce myself or ---?

## HEARING OFFICER:

The clock will start as soon as you say your name and you need to start by saying your name.

### MS. KELLEY:

I'm not going to

50 1 introduce myself or state what my ---HEARING OFFICER: 2 Okay. We'll start right 3 4 Go. now. 5 MS. KELLEY: Okay. Hi. My name is 6 7 Beth Kelley and I live in New York 8 City. I have been following the 9 fracking industry for about eight 10 years. Ever since the de facto 11 moratorium went into place, every time 12 I read about fracking related incidents 1.3 such as gas explosions, chemical 14 spills, contaminated water, destroyed 15 ecosystems and so and so forth I assume 16 that the Commission is seeing the same 17 things and that, of course, it knows

> When the DRB Governors made a big announcement last year that they were going to ban permanently fracking, I thought, yes, finally. Then the draft regulations were

> that only a permanent ban will protect

the Delaware River from the gas

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industry.

released and it became obvious that celebrating was premature. As the Sierra Club's Jeff Tittel said so aptly, these proposed regulations are a dirty water deal hidden behind the fracking ban. So here we are.

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Seventeen (17) million
people rely upon the Delaware River
basin for safe drinking water. Over
eight million of them live in New York
City, but DRBC must not want to hear
what many of these 17 million people
think about these regulations since
there are no hearings in New York City,
no hearings in New Jersey, no hearings
in Delaware.

A lot of people have to travel hours to get to the hearing.

This says a lot about the so-called public input process of the DRBC.

So my friends and I are here to lend our voices to eight million New York City residents who are incredibly fortunate to have such great tasting, safe drinking water from the

upper Delaware Catskill watersheds.

The water is so clean, so protected that the city doesn't have to filter it.

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it, it would cost billions of dollars and this would be on top of the billions that the city already needs to maintain its aging infrastructure such as the current \$1 billion repair of the Delaware aqueduct tunnel.

It is unconscionable that the fracking industry doesn't have to disclose all the chemicals it uses.

Nobody knows exactly what is in fracking fluid and in fracking waste.

How can DRBC regulate what it doesn't know?

We don't know the effects of water withdrawals and so many fracking activities because the industry doesn't have to provide the data that scientists need.

The unprecedented exemptions given to this industry have

proven very convenient to them. And by the way, anyone that thinks that this industry could be discouraged is certainly misguided.

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Because of all the known and unknown risks that fracking presents, DRBC must evoke the precautionary principle and ask how much harm is avoidable, instead of how much harm is acceptable? In order to carry on its mandate to protect the quality and quantity of the water, DRBC must prohibit fracking and all fracking related activities.

#### HEARING OFFICER:

I'm going to have to stop you at this point.

#### MS. KELLEY:

This informed decision will affect generations to come.

# HEARING OFFICER:

Ma'am, you have to stop.

#### MS. KELLEY:

Do not fail them.

HEARING OFFICER:

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Okay.

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# MS. KELLEY:

I read it a little slower than I practiced. Thank you.

# HEARING OFFICER:

Okay. Next, will be Mark Lichty, and then Harriet Shugarman and then Bill Shaughnessy.

### MR. LICHTY:

Hi. My name is Mark
Lichty and I'm here as business person
and as a manufacturer. I want to make
the comment about the API testimony.
We know from five years ago that the
gas companies told us that there was no
leakage from wells. We know that they
claimed five years ago that it was
safe. We know the DEP five years ago
said that there was no leakage from
wells from fracking.

Well, indeed, today we know differently, that there has been leakage from wells. There's leakage from fracking in wells, and so I question the credibility of those

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Now, I'm here today as a manufacturer, and I think my story is an important story because my story is one of enlightenment. My story is one of awakening.

I was totally pro fracking. Now I'm anti-fracking. Ι spent \$200,000 on a manufacturing plant very close to the Delaware River, by the way. I spent \$200,000 based on my belief in the gas company's propaganda, that this little blue flame was safe. I didn't learn until later that it wasn't about the little blue flame. Ιt was about the process of extreme extraction that produced that little blue flame. That process was the problem. Meanwhile, I had spent \$200,000 on converting from oil to gas. I'm stuck with gas now.

I can't spend that \$200,000 on a clean energy future. I'm stuck with gas now. We've had over a thousand studies that indicate and

establish the health and environmental consequences of fracking. We need no more studies to establish the health and environmental consequences of fracking, and it doesn't matter whether it's the fracking process itself or the related activities.

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It's all bad. It's all bad, and so as a manufacturer, as a businessman --- and I know you don't often have manufacturers and businessmen to speak here because they're reluctant to speak here, but today I speak. We need to have a ban on any related activity to fracking in the Delaware River Basin Commission. Thank you.

#### HEARING OFFICER:

Thank you, sir. Harriet Shugarman, and then Bill Shaughnessy and then Ling Tsou. All right. This is Ms. Shugarman. If you would, please, ma'am.

### MS. SHUGARMAN:

Thank you. I'm Harriet

Shugarman, the Executive Director of Climate Mama, a national organization with members from all the basin state.

And I'm here also in my capacity as the New York City Chair of the Climate Reality Project.

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I'm an adjunct professor at Brownville College of New Jersey where I teach a senior level course in global climate change policy, and I traveled here from Bergen, New Jersey today.

I will be focusing my remarks on the climate impacts that threaten the basin. The realities that climate change already brings to bear the region must be considered, as must the future climate change impacts as best we can. I'm not sure how closely you've been following the arrival of day zero in Cape Town, South Africa.

Cape Town is a sophisticated city with sustainability programs that serve as models around the world, yet as early as July 9th of

this year, the taps for nearly one million people will be turned off. The drought that has created this near Max Max scenario came seemingly out of nowhere in the last three years.

Providing them water is not an easy task, particularly as we live climate change.

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guardians of our basin are working to arrive at. I know that. With the impacts of climate change ever present, though, anything that threatens the flora and the fauna that rely on the Delaware to survive and the absence of more than 15 million people who live in the basin to the clean and reliable waters of the Delaware must be stopped.

Earlier this week, astonishing scientists, the Arctic recorded temperatures above zero, 45 degrees above normal. It's not an anomaly.

This is something that's happened numerous times over the past

few years. This occurs as we in the northeast are also baking in an unseeingly warm February for the second year in a row. New York City, D.C., Boston and Portland, Maine all set new high temperatures this week, with Pittsburgh breaking a 127-year heat record, hitting 78 degrees yesterday. These types of extremes are happening with more regularity and frequency all around the world.

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This past summer New York magazine published the article, an Uninhabitable Earth. They looked at the worst case scenario of unchecked climate change.

As policy makers, we often use the middle of the standard deviation when assessing possible scenarios. There are no clear settings to tell us how soon or when climate impacts will be catastrophic, but this asks us to look one to two standard deviations away from the norm.

There were push-backs

including from climate scientists, yet we should not use the precautionary principle when considering something as critical as our access to fresh water?

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I am sure that some of you are parents or grandparents, uncles or aunts. Climate change is happening on our watch. Visualize your children as you make these critical and very big decisions. We have seen time and again unexpected and unimaginable scenarios that do occur and we can only control what we can control. You control what happens next.

Anything short of a complete ban on drilling and fracking related activity including water related withdrawal and storage wastewater would be a dereliction of your stated vision and your leadership. Thank you.

#### HEARING OFFICER:

Thank you. Bill Shaughnessy next, please, then Ling Tsou and then Dyanne Jurin. Okay.

1 This is Mr. Shaughnessy?

2 MR. SHAUGHNESSY:

Yes.

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4 HEARING OFFICER:

Okay.

MR. SHAUGHNESSY:

7 Good afternoon. My name

8 is Bill Shaughnessy. I live in

9 Meadowbrook, Pennsylvania, just outside

10 of Philadelphia. I'm also a Wayne

11 County landowner and I am an

12 environmentalist. I grew up in this

13 basin. I had an organic garden. I

14 drew on the basin's waterways. I built

15 boxes for water on my property.

I plant food from

17 | wildlife. I fish the waters of the

18 basin. I stock my own streams with

19 trout on my own dime for my family to

20 enjoy. Those trout travels down the

21 creek all the way to the Delaware for

22 all to enjoy. I'm a true steward of

23 this basin, and I am here today to tell

24 the DRBC you have no right and

25 authority to take my family's future,

the future of my land and my mineral rights, my Constitutional right to harvest my oil and gas.

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The DRBC has sat on its hands for over seven years refusing to vote on its own regulations that has no authority to rule on whatsoever. You give me three minutes to comment on an issue that is already a foregone conclusion in your eyes. This isn't a public hearing. It's a circus. The Susquehanna River basin has all the same characteristics as the Delaware.

It's a scientifically proven success story, yet the Delaware River basin ignores them in favor of anti-gas special interests. How can the Commonwealth of PA see the very same success of the Susquehanna, allow the Susquehanna to successfully drill for gas and successfully monitor the stringent regulations from our own DEP yet deny the same circumstance in the Delaware River basin?

This is a clear taking on

the part of DRBC, the very Commonwealth

I live in and pay taxes to.

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The DRBC has a lawyer representing them in the mineral gas states. He has a habit of fainting in front of the Judge on Direct Examination. You better wrap him up in bubble wrap because he's going to spend a lot of time on the floor when he sees what's coming down the pipe in the form of a lawsuit. DRBC can't take my mineral rights. If they want them,

I want 100,000 acre. You owe me \$22.8 million. The environmentalists are not the individual human resources of the basin. The environmentalists are the landowners who create and care for our land. We know best how to do just that. You cannot pass your proposed and illegal regulations. Thank you.

#### HEARING OFFICER:

Thank you. Next, would be Ling Tsou, and then Dyanne Jurin and

then Edith Kantrowitz. Okay. Ma'am, would you start by stating your name, please?

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# MS. TSOU:

Sure. My name is Ling
Tsou and I reside in New York City, and
I'm with United Action. I urge DRBC to
issue regulations to completely and
permanently ban fracking for natural
gas and fracking-related activities
including water withdrawal and
wastewater processing storage and
discharges throughout the Delaware
River watershed.

The Delaware River basin provides drinking water to 15 to 17 million people in New York, New Jersey, Pennsylvania and Delaware including the urban areas of New York City and Philadelphia. The irreplaceable resources of the Delaware River watershed with its important economic benefit to all four states will be greatly jeopardized by fracking and this polluting operation, and must be

protected for the public and future generations.

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Fracking pollutes
groundwater, destroying the quality for
generations to come. The toxic
chemicals in fracking fluids will
migrate to water and to the surface.
Considering groundwater flow, the
environment created by the gas
extraction process including the lack
of durability of the cement sealing and
steel casings, aquifers and surface
waters are not sufficiently isolated
from the toxic fluids and deep geologic
--- geology pollutants by drilling and
fracking.

After exhaustive study,
the State of New York prohibited
fracking based on environment and
public health analysis. Fracking uses
enormous volumes of water. Water used
for fracking is lost, either by being
polluted or by being consumed since
most of the water injected for fracking
is not recovered and is not returned to

the source. This withdrawal of water depletes the surface waterway and our groundwater from where it is taken.

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Considering that only one percent of the earth's water is drinkable, how we manage water will define our future and the future of the planet. Substantial damage is caused by the wastewater produced by fracking, which contains many dangerous pollutants including radioactive materials that cannot be fully removed by treatment, and those damages can substantially harm the water quality of our streams and the life in them.

The supersized wells with horizontal well bores up to 4 miles long use 10 million, 20 million gallons of water per well. This increased use of water for fracking translates to wastewater that must go somewhere. The need for more places to get rid of this wastewater is a problem becoming so acute that the industry is now targeting the Delaware River basin.

And with those --- with these draft regulations, the DRBC is opening the door. We urge DRBC to completely and permanently close this door. Thank you.

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## HEARING OFFICER:

Dyanne Jurin, please, and then Edith Kantrowitz and then Pat Carullo. Okay. Ms. Jurin?

### MS. JURIN:

Hi. My name's Dyanne

Jurin and I'm a resident of

Pennsylvania, and I'd like to thank the

DRBC for taking this bold step using

their scientific knowledge to put that

knowledge where our mouths are in our

regulations. I'm thankful that they

are proposing to ban fracking in the

Delaware River basin.

This is a solid step in decreasing the impact of gas production has on our environment. The scientific data is incontrovertible. Our plant is heating up and sea levels are rising. The biggest contributors to warming of

our planet and to water acidification are CO2 and methane gas.

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I'm thankful to the DRBC for their proposed tough regulations on water that will be withdrawn and returned for gas fracking production, but I'm confused. If you have scientific knowledge that lets you know that CO2 and methane gas are destroying our planet, then why just say not in our back yard? Why let other people's back yards be impacted by this?

The DRBC has to give a clear statement that scientific knowledge lets us know we have to turn away from gas production so that we can show other water basins that you have this power to regulate this.

And we have to stop

having and leaning on the gas and oil

industry thinking that they can

continue to make profits on the

environment's impact and destruction.

Please speak and use your integrity.

Thank you.

### HEARING OFFICER:

Thank you, Dyanne. Edith Kantrowitz, then Pat Carullo and then Blayne Diacont. Okay. Ma'am, please.

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#### MS. KANTROWITZ:

United for Action. I urge a complete ban not only to gas drilling, but all activities related to fracking including water withdrawals, wastewater processing, storage and discharges.

It's important that we remember we're already in a time of extreme climate crisis, and you should know that natural gas methane is 86 times more deadly than carbon in the atmosphere over a 20 year period.

Current technology does not control the release associated with methane operations to the point that emissions from gas development in Pennsylvania are currently expected to prevent the achievement of Pennsylvania's climate goals.

As intelligent and moral

people, I ask, you how can we allow this to happen? This watershed supplies water for 17 million people in four states including New York City and Philadelphia, as well as many economic and recreational benefits.

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An irreplaceable resource that must be protected for the public and cannot be allowed to suffer the impacts that will inevitably result from fracking operations or its related activities. The DRBC's regulations do not allow the Delaware River basin water quality to be diminished in any way.

The DRBC policy of protection and preservation for these states that it shall be policy to discourage exploitation of water from the basin, and that it should be policy to discourage importation of wastewater that we significantly reduce the capacity we receive from the streams.

By allowing water withdrawal and wastewater importation

related to fracking, the DRBC would therefore be in direct contradiction of its own stated goals and policies.

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Water use for fracking is completely lost in the system either by contamination or by the natural evaporation cycle. At least 90 percent of Marcellus Shale frack water remains underground.

Water withdrawals also have the potential to disrupt or diminish the flow of water to hydrologically connected wetlands and bodies such as ponds and streams. And water removal is reducing fresh water available to residents to use.

It has repeatedly been demonstrated that gas fracking contaminates groundwater. Toxic water resulting from fracking also --- wastewater from fracking also contaminates streams with dangerous pollutants.

While drilling companies in the Marcellus Shale are looking

forward to decreasing the amounts of their wastewater that is contaminated with benzene, bromide, toluene, xylene and radioactive materials, there is no reason why the Delaware River basin should be the recipient of this toxicity.

For all these reasons, we must have a complete ban not only on fracking, but on its related activities of water withdrawal and wastewater processing. Thank you.

# HEARING OFFICER:

Pat Carullo, please, and then Blayne Diacont, and then it would be Thomas Stinnett. Okay. Is --- is Pat Carullo here? Pat Carullo?

All right. Blayne
Diacont, please. If you would, sir, please. And I'll call Pat Carullo's name later. Perhaps that person's late, coming later. And then it'll be Thomas Stinnett and then Nicole Jacobs.

Okay. Mr. Diacont,

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### MR. DIACONT:

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Thank you. My name's
Blayne Diacont. I grew up in Lehigh
Valley. I'm an outdoorsman. I also
kayak the Delaware. I studied geology
in college. I worked as a
hydrogeologist, private consulting for
over ten years providing cleanup to
groundwater contaminations and
developing high capacity water supply
wells for drinking water purposes.

I then worked for the SRBC for six years where I co-authored the aquifer testing guidance document, managed surface water withdrawals in the natural gas industry.

### HEARING OFFICER:

If you could keep your voice up and use the microphone, please?

# MR. DIACONT:

For the last seven and a half years, I worked as a water resource manager and operator for the natural gas industry. I'm speaking

today as a scientist, as a worker for the natural gas industry. I believe in science and what we do.

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We have the ability to successfully produced clean burning natural gas, and also being great stewards to the environment. In my company, my division, we sourced all the water for the least five years in the main branch of the Susquehanna We recycle 100 percent of our River. We drastically reduced our water. fresh water by utilizing produced water at a rate of 60 percent of our total The document produced by the volume. DRBC states a lot of concern regarding water demand and usage. I'm in a unique position to state I strongly believe these concerns are overemphasized and misrepresented, and that each one of them can be addressed in the appropriate regulation.

You only need to look at your adjacent basin and sister agency for guidance in this regard. Their

existing regulations in the basin are utilizing both protection policies in determining what water stream is sufficient to support withdrawals, condition approval to limit rates, performing impact analysis, and performing studies can all be done at your agency as they have successfully done so at SRBC.

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Utilization of the 2016

SRBC assessment report as a footnote to document the basin is at best troublesome. The SRBC document states things like to date the Commission monitoring programs have not detected discernible impacts to the quality of the basin's water resources as a result of natural gas development. This discrepancy is either a lack of understanding of regulatory tools available and used by the SRBC and other agencies, or a lack of effort to coordinate with those agencies.

Although I can speak at length of misconceptions presented in

the 22-page document, today, I'd also like to just speak on two specific points. Number one, the DRBC stated that 70 percent of their watershed is underlain by the Marcellus and Utica. This is an unrealistic representation when considering what part of the basin is actually underlain by developed natural gas.

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a map briefly, it's more like ten
percent. The report also attempts to
equate the fact that our industry
continues to achieve longer laterals
for horizontal wells and that there is
more water required for the well. In
the context of the report, it implies
that it's a bad thing. Instead, longer
wells should see some positive
technological advances because longer
laterals can ---.

#### HEARING OFFICER:

You got 15 more seconds, sir, because of the interruption. You have 15 more seconds.

## 77 1 MR. DIACONT: 2 Thank you. 3 HEARING OFFICER: 4 If you make perhaps, the 5 second point. 6 MR. DIACONT: 7 Yeah. Your attempt to 8 equate the fact that our industry 9 produced longer laterals for horizontal 10 wells and that this equals more water 11 required to complete the well, in the 12 context of the report it implies that 1.3 it's a bad thing. Instead, it is a 14 positive technological advance because 15 longer laterals equals less water 16 needed to complete the wells. It's 17 irrelevant as long as the withdrawal is 18 properly regulated, managed and 19 performed to avoid impacts to the 2.0 source. 2.1 HEARING OFFICER: 2.2 Okay. I have to stop you 2.3 there. Okay. 2.4 MR. DIACONT:

Thank you.

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## HEARING OFFICER:

Okay. Thank you, sir.

3 All right. Thomas Stinnett, please,

4 and then Nichole Jacobs and then Mary

5 Ellen Cronly. All right. Mr.

Stinnett, please.

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## MR. STINNETT:

Hi. My name is Thomas

Stinnett, and I am President of Borough

Council of Riegelsville Borough, a

little borough that runs right along

the Delaware River. And we are --
have a pipeline that's going right

across part of our borough and are

really concerned about its presence,

but we're also concerned about the

Delaware River Basin Commission's

proposals to dump wastewater processing

and discharges from fracking into the

Delaware River basin.

And the Borough of
Riegelsville supports the continuation
of the prohibition and we also consider
the weight of evidence that shows
natural gas development operations

cannot be done safely or without degrading the exceptional water quality of the Delaware River and its tributary systems.

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And the Borough of
Riegelsville calls upon the Delaware
River Basin Commission to enact a
complete and permanent ban on natural
gas development and hydraulic fracking
and all related activities including
drilling and fracking, processing
discharges from, and water withdrawals
for drilling and fracking operations
throughout the basin.

This was all --- there was an awareness in the meeting that I did not conclude. This is a resolution that was passed on January 10th, 2018 by the Borough, and we have submitted this in writing to the Commission previously. Thank you.

#### HEARING OFFICER:

Thank you. Nicole

Jacobs, and then it would be Mary Ellen

Cronly and then Bruce Rosen. Just one

moment, please, ma'am. All right. And this is Nicole Jacobs? Okay. Ms.

Jacobs, please.

#### MS. JACOBS:

 $\hbox{My name is Nicole Jacobs} \\$  and I am a manager at the ---.

# HEARING OFFICER:

Can you speak louder?

All right.

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# MS. JACOBS:

wife of a diesel mechanic who has worked on sites for fracking. And I'm a mother of two little girls that we are raising in the Susquehanna River basin. It's all around us. So when I discuss the impact of development, I'm not just telling you about the research, although there is extensive research. I'm speaking about something that has been a part of my community and taking place within a mile of my own home since 2008.

And there's a lot of talk. I'll try to keep my remarks so

as to not take a lot of time. Thank you for the opportunity to do so. Many have commented on a recent study and the lack of impacts to the Susquehanna River basin. Many of the studies being used as evidence of harm, in fact, show no causation and base their conclusions on assumptions absent any actual samples. To the contrary, asthma rates and hospitalizations and mortality rates have fallen following extensive shale development.

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The bottom line is that the shale industry did not have any of the negative impacts that are being expressed as possibilities here. For instance, fracking is not negatively impacted. Two industries that are an especially important part are the economy and culture. Tourism has not been negatively impacted in this state or in others with extensive oil and gas.

In Texas, tourism is the second largest driver of the state's

GDP behind oil and gas. Mobile County, Alabama is not only known for their beautiful beaches and gulf shores that draw tourists from all over, but they also have some of the most extensive oil and gas development in Alabama.

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The Bradford County

Conservation District's 2015 study,

show that from 2007 to 2012, 1,100 of

the county's more than 1,400, the

number of farms and acreage of farms

increased by 12 and 15 and a half

percent, respectively.

Farms hire more workers at higher wages and the value of Bradford County farms increased by 25 percent. Fracking has not negatively impacted that culture.

This industry is strictly regulated at the federal and state level and that includes the Water Commissions such as yourself that oversee water, not land use, to ensure that we continue to have some of the best fishing and recreational spots in

the country.

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The choice to allow fracking in the Delaware River basin does not have to be an either/or choice between our environment and health or our economy, nor does it have to be a choice between different economic drivers. We can and are building a better tomorrow for our children and a major part of that for most of Pennsylvania and what could be the Delaware River basin includes the natural gas industry. Thank you.

## HEARING OFFICER:

Okay. Thank you. Okay.

Now, that was Nicole Jacobs. Correct?

Okay. All right. And it'll be Mary

Ellen Cronly next, and then Bruce Rosen

and then Faith Zerbe.

### MS. CRONLY:

My name is Mary Ellen

Cronly. I'm with UFA, which is a total volunteer group and I traveled here from New York City today. I'm a concerned citizen concerned for the

health of our children and of all people. The proposed regulations allow DRBC to grant applications to export water for fracking and import toxic fracking wastewater into the Delaware water basin.

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The proposed regs

authorize toxic wastewater to be dumped into waterways after, quote, unquote, treatment by a facility. Many toxic chemicals used in fracking are unknown. How are the facilities going to treat chemicals that are unknown?

The gas and oil industry has a federal exemption. They are not required to reveal all the chemicals that they use. Exporting water for fracking will deplete the basin and concentrate the pollutants in the basin even further.

The proposed regs have no acceptable standards. They merely state that DRBC will discourage water export and wastewater import. An agency such as the DRBC and its

officials can be bribed by the gas industry. They can be undermined by politicians to reduce staff, withdraw funding and put their own cronies in charge.

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How are they going to regulate the toxic chemicals that are in the wastewater? Allowing applications to authorize water removal for fracking and wastewater will support fracking in neighboring states. Fracking in neighboring states causes cracks in the underground rock formations which go for many miles. This has been shown by a New York City study by a --- by an --- by a --- excuse me, environmental engineering firm.

Allowing fracking
chemicals to travel underground many
miles, we don't know how far,
eventually into our water supply and
farming regions, fracking in neighbor
states put methane leaks into the
atmosphere. It causes global warming

and destructive climate changes to the region and climate. Fracking in neighboring states will eventually poison the air we breathe, the water we drink and the food we eat.

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We need to ban fracking, not support fracking in our region.

I'm not against businesses making money and people being able to earn a living, but it cannot be at the expense of our water, food and climate. Thank you.

# HEARING OFFICER:

Okay. Thank you, ma'am.

Bruce Rosen, please, and then Faith

Zerbe and then Ned Fink. Okay, Mr.

Rosen.

### MR. ROSEN:

Hi. My name is Bruce

Rosen. I'm a retired city planner from 
New York City and a product of its 
public schools from kindergarten 
through my Baccalaureate. I mention 
that because when I was in junior high 
school, one of our classes was earth 
science.

And we, of course, got to use what created the area, which is constant glaciers, so both the landscape and the hydrology. One of the things that we were told --- I was in a part of Queens that draws water from the aquifer as opposed to most of the rest of the city drawing from upstate --- was that because of the salinity balance, eventually, we, too, were going to be drawing from that same water source.

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Well, in the same way that Brooklyn was taken out of the aquifer in the beginning of the 20th century, a million people in southern Queens ended their --- at the close of the 20th century.

So all 8.6 million people in New York City are now drawing water from the Delaware basin, and coming behind them, as you were told, the 2.8 million people in Nassau and Suffolk Counties.

Now, despite a million

people exiting in Queens, there's a salinity problem that Nassau is facing. And all the coastal area, which is very largely New York and New Jersey has the same balance problem. So we're now talking about 17 million people being dependent upon keeping this extraordinary resource of fresh water. Double that.

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That's the number of people that are all over New Jersey, lower New York, southeastern

Pennsylvania and all of Delaware, 33 million people. So we cannot touch that water. By the way, as --- as you may know, our Attorney General is suing the firm that was based in our state that lied about what to do about climate change.

The family that got wealthy over that firm, their foundation is now withdrawing from that industry. That industry, as you know, was born in the State of Pennsylvania in the mid 19th century.

So we've had a lot of illusions and delusions that have profoundly affected the way public and private investments have been made, and we cannot continue to do this. We have as much fresh water on the planet, actually less than when human beings appeared, and we have to properly protect the water that we have.

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So in no way should the water resources of the Delaware River basin be used for resources like this. Thank you very much.

## HEARING OFFICER:

Faith Zerbe, please. And then it would be Nick Fink and then Lois Ann Oleska. Okay. Ms. Zerbe, when you're ready.

### MS. ZERBE:

Good afternoon. Thank

you to the DRBC for holding the

hearings, but as many of our folks have

talked about, there certainly are not

hearings in the other basin states

where 17 million people get their

drinking water. I'm here today --there are so many things to really talk
about when it comes to fracking.

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But I think one of the key things as I listened to people talking that I really wanted to share, is the issue of the rose-colored glasses in the drilling area of the Susquehanna basin.

That's simply not true.

We had many speakers talk about the science. There's over 1,000 studies showing the harms of drilling and fracking. I have friends who have premature babies who've been born near fracking wells.

We've had plenty of people with contaminated water and, of course, the Delaware River Basin's mission has been out to the fracking region.

The thing I think we need to remember is the cumulative impact.

We need to also remember the politics of things. I grew up in the abandoned

mine drainage area of --- of Schuylkill County. Anthracite mining was there.

My grandfathers were coal miners. They mined. They --- they did their job, but they were also farmers. We know the legacy of fossil fuel pollution is not a sustainable way forward for the future.

We've learned that in

Pennsylvania. Just a few weeks ago,

the Department of Environmental

Protection looked at how many miles of

streams in the Commonwealth are

polluted, mostly from abandoned mine

drainage.

are contaminated, a lot due to abandoned mine drainage. We have about 86,000 miles of streams in Pennsylvania and 19,000 are impacted. That's a lot of legacy pollution, so we have the science and we have the history. We have those of us who have borne the sacrifice of the fossil fuel industry.

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So when we hear API and multibillion dollar corporations talking about safety every other word, it's a sham. How many times will we allow that? It's time to stop.

In 2010, we gathered in Upper Delaware. DRBC took a precautionary principal, but again, there are so many people have decided it does not make any sense, nor is it morally ethical for our fresh water, that one percent of fresh water on the planet that we have to keep using since the dinosaurs. Right?

We still have the same amount of fresh water. We have seven billion people on the planet and we're going to frack with fresh water or take it over to our neighbors in the Susquehanna basin where people are suffering from drilling?

And, again, the cumulative impact is just starting. We just started this industry.

We have over 1,000

studies. Geologists back in 2010 said to us the failure rate might be five to ten percent. Well, the science is bearing out. DEP has had over 4,000 incidents where the public has said there has been problems with their drinking water. There's been over 1,000 studies from the physicians for state energy, a health database. They have over 180 studies about the health impacts.

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# **HEARING OFFICER:**

I have to stop you.

## MS. ZERBE:

So we need to stop

drilling and we do hope the Governors

will do the right thing. It is an

election year. We're watching and the

world is watching. End fracking now,

all of it.

# HEARING OFFICER:

Ned Fink, please. And then it would be Lois Ann Oleska and then James Orben. Okay, Mr. Fink.

# MR. FINK:

Okay. My name is Ned

Fink. I'm from Coopersburg, PA and I'm

just a taxpayer. And I'm against

fracking, but I'm not going to thrash

over everything the people here said I

agree with. So there's no sense in me

talking about that, but what I do want

to talk about is, we're trying to clean

up the Delaware River and the Delaware

Bay.

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And a lot of people don't know this, but all the municipalities in the drainage are going to have to clean up their storm sewers out.

They're going to have to put strainer bags in. Every time there's a rainstorm, they're going to have to clean their storm sewers out again, put more strainer bags in and the Borough are going to have to build a retention pond.

And that's going to cost over a half million dollars, and they're probably going to have to take some homes because they want it on the

south side of the borough. Now, all this will only reduce the sediment that goes into the bay by ten percent, but the taxpayers are going to have to pay for all this.

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So at a time when we're trying to clean the bay up, then we're going to go along with all this fracking and --- and you can't have that type of chemicals and everything winding up in the Delaware River. Now, I know in the Susquehanna River --- Towanda, PA, their fracking byproducts wind up in the Susquehanna River. And the Susquehanna River is having a problem right now and the bass don't reproduce anymore.

They're all small and stunted and they just don't reproduce.

Now, I don't know if that's from fracking, but it --- it seems funny that's just happened recently in the last few years.

Now, Pennsylvania is a Commonwealth and if you look in the

1 encyclopedia, it tells us that a 2 Commonwealth is a government where we the people have something to say, but 3 4 it seems more and more in the 5 Commonwealth of Pennsylvania, nobody 6 heeds what we have to say. So I just 7 would like to thank you for the time. 8 HEARING OFFICER: 9 Okay. Thank you. Ms. 10 Oleska, Lois Ann Oleska, and then James 11 Orben and then Ned Heindel. All right. 12 And this is Lois Ann Oleska.

### MS. OLESKA:

Correct.

#### HEARING OFFICER:

All right. Yes, ma'am,

please.

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### MS. OLESKA:

I'm Lois Oleska. I am

Moose Creek Watershed Board, a resident

of Durham Township. I live on the

creek, and it is part of the Delaware

River watershed basin or watershed. As

a member of the Moose Creek Board, we

have many activities to educate our

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members, our children, about water.

One of the activities involves a
scientific water model which is set up.

It kind of looks like a fish tank.
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We have wells set up,

landscaping and then you can see all

the groundwater. You add water into a

well. You inject it as if it's being

fracked or injected into the well. It

shows up in the groundwater. When you

see that, it's such a visual impression

that it makes on you when you see what

happens when fracked water is either

added to a watershed or you have

fracking that happens in a watershed.

So there's a real visual model that we

use for educational purposes.

Today, I ask the DRBC to ban and do a complete ban on all fracking and its activities in the Delaware River watershed in the basin.
Our water is of the highest consideration. Durham Township has only wells that we use for drinking water. They can become contaminated if

contamination in our mother watershed happens. Our water is for drinking as well as for economic and recreational purposes. The river is our back yard playground.

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We hike along it. We have the Delaware canal right in our back yard. We fish in it, we swim in it. We notice when there's a drought, we notice when there's a flood. I'm not a scientist, but as a human being, I visually see in my model, the scientific model, the devastating effect of pollution or contamination on our water. Let's put the human race first, not the industry. Thank you.

## HEARING OFFICER:

Okay. Thank you, ma'am.

James --- James Orben and then it would

be Ned Heindel and then Gail Domalakes.

#### MR. ORBEN:

Okay. Sir, please.

### MR. ORBEN:

Hello. I am James Orben.

I live in the Cooks Creek watershed in

Bucks County. Cooks Creek watershed is a Pennsylvania exceptional value watershed. I and everyone else who lives in the Cooks Creek watershed depend on it for our drinking water. The Delaware River watershed supplies water to its residents and millions more.

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The introduction of the cocktail of poisons used in hydraulic fracturing threatens the quality of the water in the Delaware watershed and the health of people who rely on that water. The taking of water from the Delaware River watershed threatens the flow in the streams and rivers of the watershed.

We need the water we have and we need this water to remain free of the poisons used in hydraulic fracking. Thank you.

#### HEARING OFFICER:

Okay. Thank you, sir.

Okay. Ned Heindel. And then after Mr.

Heindel, it'll be Gail Domalakes and

after Gail Domalakes it will be Tara Zrinski. Okay. Mr. Heindel.

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### MR. HEINDEL:

I'm Ned Heindel. I live in the Fry's Run watershed area. In fact, we own the headwaters of Fry's Run in Lower Williams Township. I have a Ph.D. in pharmaceutical chemistry and I have taught the last 52 years at Lehigh University in the area of health science. I've taken graduate courses in toxicology. I have 320 publications in the area of toxicity of chemicals in a beneficial way, as to how they can be controlled.

I'm here to talk about a few of the chemicals that are used in fracking, but I'd like to start with a quote from Francis Von Holkeim (phonetic) in 1555. Professor Von Holkeim said the only thing that separates a toxin from a medicine is the dose.

human genome, we process chemicals differently.

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We process

pharmaceuticals rather markedly
differently. For one example, many of
us clear, inhale and ingest benzene and
metabolize it as benzene. We do have
differences in human metabolism, and
it's critical to understand that
because something that is safe for a
lot of the population, may not be safe
for all of the population.

We have idiosyncratic metabolic differences. 352 chemicals have been identified as being part of the cocktail used in fracking. That's the number that is studied by a man named Colburn, said go down wells. The number that come up is even larger because it has an extracted effect. A review of the 352 chemicals used in the United States for fracking, shows that 25 percent are demonstrated for potential carcinogens, 45 percent have an effect on the immune system and 37

percent have a long lasting effect on the endocrine system.

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Chemical effects can occur long after the exposure. I give you just a couple examples of that. Individuals exposed to one of many toxic gases like dichloromethyl sulfide develop immune system collapse 20 years afterwards. Streptozotocin toxins are cumulative toxins for --- to self poisoning.

You've got to consider that these low level chemicals which then are not removed quantitatively by cretin --- and remain in the drinking water can have cumulative effects differentially across the human race.

I would like to ask the committee if they would receive from me --- and they can throw it in the nearest wastebasket, ten recent publications, one from last week's issue of the journal showing you a correlation of exposure to fracking chemicals and human ---.

## HEARING OFFICER:

2 Yes, you can send it to 3 that address, sir, and actually, I'll repeat the address. It'd be actually a 4 5 convenient time to do it. I'll wait 6 until you take your seat and then I'll 7 say the address. The answer is yes. Give me just one moment. Okay. 8 Just 9 before we start, ma'am, I'm going to 10 state that address again. Okay. Let 11 me give the address. Oh, okay. 12 You have to submit it

online, sir, to the DRBC website. The DRBC website. All right? Okay. And let me just catch up here. That was Dr. Heindel and then Gail Domalakes?

### MS. DOMALAKES:

18 Yes.

#### HEARING OFFICER:

Okay. Ms. Domalakes,

please.

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#### MS. DOMALAKES:

I'm Gail Domalakes. I
live in Bethlehem, Pennsylvania. I
don't really have anything prepared. I

just signed up now. I would --- I also grew up in the anthracite coal region of Pennsylvania, Schuylkill County, and I'd just like to say those streams are still dead. And I would just like to reiterate that I would hope we can learn from our experience.

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Pennsylvania, my

understanding is that we have more miles of stream density than any state in the union. That's a lot of water that can be contaminated. And sometimes I feel like we're being asked to choose between cheap energy and clean water, and I will take clean water every time. Thank you.

# HEARING OFFICER:

Okay. Thanks. Okay.

Tara Zrinski. And then the next speaker would be William Buskirk. Okay. Ms. Zrinski, please.

#### MS. ZRINSKI:

Hi. My name is Tara
Zrinski. I am a Northampton County
councilwoman. My concern today is

obviously for the cumulative impacts of fracking. I really think that we do need to ban it. And in my county, in particular, what we're dealing with is part of these cumulative impacts with the PennEast Pipeline. It's coming along 22,000 acres of the Water Authority where 118,000 people get their drinking water.

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There are at least 50 parcels of land. Ned and Linda Heindel are in my county, and they are one of the parcels of land that will be impacted by eminent domain.

Now, people are losing their their property. They're losing their drinking water, potentially. This pipeline is going underneath the Lehigh River, and it is also going under the Delaware River. To me, this is something that we can't take lightly.

I know that there are so many things in the cumulative impacts from --- along the way from where the --- where people are actually being

fracked with those 700 different chemicals going into the earth and high pressure, and take and extract that natural gas.

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And that natural gas is now going to thunder through a 36 inch diameter pipeline right near our drinking water.

And from what I understand, it's within 100 vertical feet of the Segal (phonetic) pipeline, which is also almost 80 years old, that will supply those 118,000 people with water.

To me, I don't understand why we can't fight this and why we can't put a stop to this and transition into renewable energy. We have sources that can give us by 2050, you know --- we have resources that can give us renewable energy and solar wind and hydro power by 2050.

And we need to transition and we're not going to be able to transition if people don't step up and

say that we don't need this dirty
energy anymore, that if we keep putting
in pipelines and we keep transporting
this energy and we keep selling the
public on the idea that they can have
clean, safe natural gas, we're just
really deceiving the people.

And it really bothers me
that I have to watch people in my
county --- over 50 parcels of land that
is not only going through people's
property, but also farmlands and open
spaces that have been preserved with
taxpayer money that are now going to be
undermined by this pipeline. So for
all these reasons that I mentioned
above, I really think that we need a
ban on fracking, not only in the
Delaware River basin, but also
statewide. So thank you.

# HEARING OFFICER:

Okay. Thank you, ma'am.

William Buskirk, please. Okay, Mr.

Buskirk.

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MR. BUSKIRK, JR.:

Good evening. My name is William Buskirk, Jr. I've been a lifetime resident of Northampton County and the Lehigh Valley. My concerns are a number of things, both based on history and the experience of dealing with corporations.

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There's always the issue of unintended consequences, unanticipated consequences, and who is going to be in the neighborhood?

I have come to be opposed to fracking. I oppose people coming into the neighborhood with waste that wasn't produced in the neighborhood. I think this year since it is, I believe, the 50th anniversary of Mr. Rogers, it's time to think about the neighborhood again. I believe that no water should be taken from the Delaware River basin to use for fracking, and that the storage of fracking waste should occur in the Delaware River basin.

I point to two instances

1 that I'm aware of. That is the 2 pollution of the Chesapeake Bay as a 3 result of pollution in the Susquehanna 4 River basin, and --- obviously, 5 unintended consequences. The cleanup 6 is still going on. And it appears that 7 the present EPA is attempting to sabotage the waters of the United 8 9 States by somehow diluting what's been 10 put forth as a way to solve the 11 pollution in the Susquehanna River 12 basin.

And then, of course, people in this area are well familiar with the zinc industry in Palmerton, and what impact that had on the Palmerton area.

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You have defoliation that occurred and even today, although the zinc industry ended decades ago, the impact is still obvious in the Palmerton area and the Little Gap area.

Finally, my mother's property is being impacted by the PennEast Pipeline and our dealings and

1 --- in Congress with PennEast have been2 less than satisfactory.

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They're going to be subject to eminent domain proceedings apparently, although the information we're getting about what's going on in that regard seems to be not coming to the landowners.

We understand that a suit was filed, but the landowner, in our case at least, has never been notified of what's going on and --- what's happening there. Thank you for your time.

# HEARING OFFICER:

Thank you.

# MR. BUSKIRK, JR.:

And I appreciate it that you chose to have another public hearing here in the local area. The only thing I'm wondering about is why hearings aren't happening closer to the Delaware River.

## HEARING OFFICER:

Thank you, sir. All

right. We're going to take a break at this point. We've gone through all of the registered speakers, so we're going to take a break and we'll just touch base as to where we are. Okay? So we're in recess, so to speak. Thank you.

SHORT BREAK TAKEN

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# HEARING OFFICER:

Ladies and gentlemen,

we're going to resume. We're going to

resume. We have one other person

that's signed up. I'm sorry. Was that

--- no. Okay. We have one other

person that's signed up to speak.

Could you please take your seats?

And then I'm also going

to ask, is there anybody else that

would like to speak who has not already

spoken, but if there's anybody else,

those people would have --- you'll have
an opportunity, ma'am. Okay. Good.

Thank you.

Okay. And it looks like we're ready to proceed. Sam Bernhardt.

Mr. Bernhardt. This is Mr. Bernhardt.
Okay. Yes, sir.

MR. BERNHARDT:

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HEARING OFFICER:

Hi.

# MR. BERNHARDT:

My name is Sam Bernhardt.

I'm Pennsylvania Director for Food and Water Lodge. I just wanted to respond to several comments that were made by folks here looking to allow fracking in the watershed, stating that --- stating --- talking about EPA studies that said no widespread systematic water contamination was --- that fracking does not cause widespread systemic water contamination.

That title has been stated several times by those who want to open up our watershed to fracking. However, that is no longer the title of the EPA study. That is because the EPA study actually found that fracking can cause water contamination, and that the

study never stated that there was no widespread systemic water contamination. It was a poorly titled study and EPA's Science Advisory Board actually made the EPA walk back the title of this study.

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They reviewed all the evidence, and they actually required the EPA to revise the title of this study to reflect the evidence that's actually contained in this study, which showed that fracking is associated with water contamination.

And so our opponents would like to believe that that is not the case, but the study was revised.

So I wanted to put that on the record.

### HEARING OFFICER:

Okay. Thanks, Mr.

Bernhardt. Thank you. Ma'am, would you like to address this, please? If you don't --- okay. If you come forward, please. Yes. And then if you'd start by stating your name, please.

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## MS. LITTLE:

Yes. I'm Janet Little,

J-A-N-E-T, L-I-T-T-L-E. I reside in

Upper Macungie Township. I am a

retired registered dietician who has

held leadership roles at local, state,

and national and professional

associations including hunger and

environmental nutrition, dietary ---.

By calculating the hydration needs of patients, residents and clients, I and my colleagues do not even consider that unknown toxic chemicals from the fracking industry may be in the water. This is because the DRBC has protected us from this.

We consider --- we dieticians consider food a medication interaction. It's like conducting a nutrition assessment of a patient.

How do you --- how do you know how unknown toxins interact with medications and food consumed by people who have medical issues and also healthy people? There are many people

who are not in facilities that are kept alive on medications that enable them to live their lives as productive citizens without them even knowing that they have a condition. We don't want to interfere with that.

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Please continue the protection of not only banning hydraulic fracking for natural gas within the Delaware River basin, but also banning any support of that industry elsewhere. Ban withdrawal of the water from the Delaware River basin to these areas and then processing and storage of waste that is generated elsewhere in the DRB. Thank you.

# HEARING OFFICER:

Okay. Thanks, Ms.

Little. Is there anybody else that would like to address the Commission who has not spoken yet? Yeah, I think I covered all of the list. You don't have to be on the list. Okay. Would you like to address the Commission?

MS. MICKLEY:

116 1 Yes. 2 HEARING OFFICER: 3 Okay. If you would, 4 please. 5 MS. MICKLEY: 6 Thank you. 7 HEARING OFFICER: 8 I say that because of the 9 recording of it. All right? 10 MS. MICKLEY: 11 Sure. 12 HEARING OFFICER: 1.3 And if you'd start by 14 stating and spelling your last name. 15 MS. MICKLEY: 16 My name is Sue Mickley, 17 M-I-C-K-L-E-Y. I'd like to address the 18 quotes of 1,100 research papers. This 19 is an excerpt from a petition from Fast 2.0 Paced Regulation authored by Steve 2.1 Malloy. It was put together February 2.2 20th and I'm presenting excerpts of it. 2.3 It's addressing the lack 2.4 of epidemiological standards that 25 threaten efforts to reduce

overregulation. It is a safe bet that virtually all epidemiological based federally regulated efforts for the past 25 years or so may be considered as safe science or junk science. This is because federal agencies, especially the EPA --- and I add here the DRBC's current regulatory efforts --- of taking action to issue regulations based on the statistical noise that is weak associated --- association epidemiology.

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The state's science should be held up to new robust federal epidemiological standards, and then validated or discarded based on its actual merits. The data used in these studies are often of such poor quality that epidemiologists refuse to share their data with independent researchers for the purpose of peer review. This is a tradition to confirm scientific method.

The first efforts to issue standards for interpreting

epidemiological studies was articulated by famed British epidemiologist, Sir Austin Bradford Hill, in 1965. Hill almost uncannily foresaw the most common abuse of epidemiological problems we see today, i.e., inappropriate reliance on weak, statistical correlations, also called weak associations, that likely reflect only poor data quality or chance versus meaningful results.

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The adage correlation is not causation should come to mind. Not only is the adage true, but also weak correlations or weak associations never portend causations. Weak associations are just meaningless statistical noise. There's not a single example in the scientific literature of a weak association epidemiological study whose reported association turned out to be scientifically valid, not one.

I would like to summarize the processing in going through using these studies to argue the dangers of

fracking. This process could easily be compared to the Salem witch trials, with the oil and gas industry and its workers --- responsible citizens being convicted by mass hysteria. I conclude real world results from fake science today.

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You have real world proof in the Susquehanna River basin right next door. They've proven reliability and a safety of this industry. It's not a new industry. It's been out there. Thank you.

## HEARING OFFICER:

Okay. Thank you, ma'am.

Okay. Let's see. Ms. Zerbe? I got the right name? Ms. Zerbe; is that correct? Is your brother here?

#### MS. ZERBE:

He's in traffic.

#### HEARING OFFICER:

Okay. Is there anybody else here that would like to address the Commissioners?

Okay. Ma'am, I think

120 1 you've already had your turn though. 2 Am I correct about that? 3 MS. CARLUCCIO: 4 Yes. I signed up after 5 everybody else because I spoke at a 6 different place, not here. 7 HEARING OFFICER: 8 Yeah, but during one of 9 the five meetings; right? 10 MS. CARLUCCIO: 11 Yes. 12 HEARING OFFICER: 1.3 Okay. Yeah, I believe 14 under the rules, that the three minutes 15 is what everybody gets. 16 MS. CARLUCCIO: 17 That's not my 18 understanding. 19 HEARING OFFICER: 2.0 I don't know. Let's see. 2.1 MS. CARLUCCIO: 2.2 There are other

25 Okay. Hold on a second,

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people ---.

HEARING OFFICER:

ma'am. Okay. You can come forward,ma'am.

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## MS. CARLUCCIO:

Thank you.

## HEARING OFFICER:

Yep.

### MS. CARLUCCIO:

Thank you. I'm Tracy

Carluccio, Deputy Director of Delaware Riverkeeper Network.

### HEARING OFFICER:

Okay. Would you spell your last name? Okay. We'll start after we go through this. All right? Tracy, would you spell your first name and your last name?

### MS. CARLUCCIO:

T - R - A - C - Y

C-A-R-L-U-C-C-I-O. Here in the area of --- of the Delaware River watershed in Carbon and neighboring counties not far from the college are shale formations that could be fracked for gas. It is essential that we, as watershed residents, understand the impacts of

shale gas extraction and mine fracking must be banned completely. That means banning fracking throughout the Delaware River watershed, any frack wastewater import, or storage, processing discharge here and banning the export of Delaware River for fracking elsewhere.

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One of the reasons

fracking has caused so much harm where

it is occurring in Pennsylvania, is

because frack fluids are so toxic and

have adverse human health impacts that

can lead to disease and to reproductive

and/or developmental problems for our

most vulnerable populations, developing

fetuses, infants and children.

For example, one scientific study conducted in 2017 identified 67 fracking related chemicals that are routinely used to frack gas or that are found in wastewater produced by fracking. The 67 chemicals were found to be constantly associated with reproductive

or developmental toxicity and include many compounds including sulfurs, pesticides, metals, volatile organic compounds and polycyclic aromatic hydrocarbons. Why is this a problem?

Because those chemicals

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cannot be widely controlled or removed before they are released into the environment by the fracking process.

Science, through many peer review reports, warns us that these fracking chemicals move out of the shale formations into aquifers and into the surface through several pathways.

Transport, storage,
handling, discharge, are more of these
pollution pathways, and according to
the Environmental Protection Agency,
fracking pollutants have contaminated
water and will continue to do so,
because fracking cannot be made safe.

Pennsylvania DEP reports itself that water supplies, private water wells, over 300, have been

contaminated by oil and gas activities within the Commonwealth.

This is in a watershed that some people today said are not being affected. So the only way to control this is to prevent the pollution. The only way to prevent the pollution is to actually ban fracking and ban wastewater imports and discharges here and ban water from being removed from our watershed. Because when you remove it, you don't have it at the source in order to provide a fresh supply. That is the basis of the 17 million people that can get their water from the Delaware River watershed. We also need that water to replenish and make healthy the habitats of the Delaware River watershed, the water you see in the river and our awe some lands that feed that river. Thank you.

## HEARING OFFICER:

Okay. Thank you, Ms.

Carluccio.

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1 Is there --- is there 2 anybody else that would like to speak, 3 actually, whether you've spoken before or not? Okay. I stand corrected on 4 5 that. Is there anybody else that would 6 like to speak? 7 MR. TAMBINI: 8 I apologize for the 9 confusion. 10 HEARING OFFICER: 11 That's my fault. 12 MR. TAMBINI: 1.3 If they've spoken today 14 --- if they haven't spoken today, then 15 they can certainly speak. 16 HEARING OFFICER: 17 Okay. Anybody else? All 18 right. Well, I don't know how long 19 we'll be here, but thank you everybody 2.0 for coming. Okay? And I won't go back 21 through the process. You know that, 22 but thank you everybody and have a good

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Okay. Thank you.

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evening and safe trip home. All right?

1 (WHEREUPON, A SHORT BREAK WAS TAKEN.) 2 3 HEARING OFFICER: 4 All right. Ladies and 5 gentlemen, is there anybody else that would like to speak this evening? 6 7 there anyone else? Okay. 8 What we're going to do is 9 close the proceedings with our thanks 10 to everybody for your interest in all 11 of this and for your comments 12 throughout this particular hearing. 13 So thank you, everybody. 14 All right. Again, safe travels. 15 Thank you. Thank you. Thank you. 16 17 18 MEETING CONCLUDED AT 5:31 P.M. 19 2.0 21 22 23 2.4 25

### CERTIFICATE

I hereby certify, as the stenographic reporter, that the foregoing proceedings were taken stenographically by me, and thereafter reduced to typewriting by me or under my direction; and that this transcript is a true and accurate record to the best of my ability.

Court Reporter

Gregory Jones