

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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IN RE: WATER QUALITY STANDARDS FOR MANGANESE &
IMPLEMENTATION

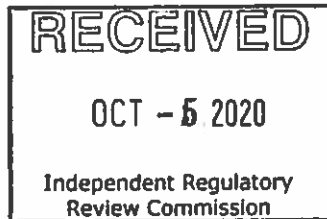
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BEFORE: BRIAN CHALFANT, Deputy Director
DAREK JAGIELA
JENNIFER SWAN
LAURA GRIFFIN

HEARING: Tuesday, September 8, 2020
2:00 p.m.

LOCATION: WebEx Meeting

WITNESSES: Rachel Gleason, Lisa Bailey, Kelly
Anderson, Matthew McCann, Sarah Pinter



Reporter: Derek Richmond

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NONE OFFERED

P R O C E E D I N G S

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2 -----
3 MR. CHALFANT: Good afternoon. I'd
4 like to welcome everybody to the Environmental
5 Quality Board's public hearing on the Proposed
6 Rulemaking for the Water Quality Standard for
7 Manganese and the Implementation of that standard.

8 My name is Brian Chalfant, Deputy
9 Policy Director for the Department of Environmental
10 Protection. Today I'm representing the
11 Environmental Quality Board at today's hearing.
12 Assisting me is Laura Griffin, Darek Jagiela and
13 Jennifer Swan.

14 I officially call this hearing to
15 order at 2:00 p.m., and this public hearing will be
16 recorded in its entirety.

17 The purpose of this hearing is to
18 formally accept testimony on the proposed
19 rulemaking. This proposed rulemaking was adopted by
20 the EQB at its meeting on December 17, 2019. The
21 proposed rulemaking includes amendments to two
22 chapters of Title 25 of the Pennsylvania Code,
23 Chapter 93 relating to water quality standards and
24 Chapter 96 relating to water quality standards
25 implementation.

1 Water quality standards are in stream
2 water quality targets that are implemented by
3 imposing specific regulatory requirements and permit
4 conditions such as treatment requirements, effluent
5 limitations, and best management practices on
6 individual sources of water pollution. Water
7 quality standards include the existing and
8 designated uses of surface waters of the
9 Commonwealth, along with the specific numeric and
10 narrative criteria necessary to achieve and maintain
11 those uses and anti-degradation requirements.

12 The purpose and goals of this proposed
13 rulemaking are first to comply with Act 40 of 2017,
14 second, to delete the existing manganese numeric
15 water quality criterion of 1 milligram per liter
16 from Table 3 in Section 93.7 relating to specific
17 water quality criteria, which was established for
18 the protection of potable water supply use. The
19 third purposing goal of rulemaking is to add a
20 manganese criteria of 0.3 milligrams per liter to
21 Table 5 in Section 93.8c relating to human health
22 and aquatic life criteria for toxic substances,
23 designed to protect human health from the neuro
24 toxilological effects of manganese, which will also
25 ensure adequate protection of all water uses. And

1 the fourth goal of the rulemaking is to identify the
2 point of compliance for the aforementioned criteria.

3 The amendments propose two
4 alternatives for a point of compliance with the
5 manganese water quality standard. The first point
6 of compliance is the point of all existing or
7 planned surface potable water supply withdrawals.
8 The second proposed point of compliance is all
9 surface waters, meaning at or near the point of
10 discharge.

11 Act 40 of 2017 added Subsection J to
12 the --- pardon me, Subsection J to Section 1920a of
13 the Administrative Code of 1929 which directed the
14 EQB to propose regulations requiring that water
15 quality criteria for manganese established under
16 Chapter 93 be met consistent with exception to
17 Section 96.3d. In other words, Act 40 directed the
18 Board to propose regulations that move the point of
19 compliance for the manganese water quality
20 criterion, from the point of discharge to the point
21 of any downstream drinking water intake.

22 The proposed regulation considers the
23 provisions of Act 40 in addition to several other
24 statutory obligations the department and the EQB
25 must consider when evaluating water quality criteria

1 and points of compliance for the criteria, including
2 Pennsylvania's Clean Streams Law, Safe Drinking
3 Water Act, and the Federal Clean Water Act.

4 The proposed fees will affect all
5 persons, groups or entities with proposed or
6 existing point source discharges of manganese into
7 surface waters of the Commonwealth. We must comply
8 with the regulation. Persons who discharge
9 wastewater containing manganese from mining will be
10 affected by the change in the proposed criteria, and
11 by its implementation at the proposed second
12 alternative point of compliance near the point of
13 discharge. The mining industry will likely need to
14 add treatments to meet the new limit if the point of
15 compliance is at their discharge location.

16 Additionally, other sectors the
17 currently have water quality based effluent limits
18 for manganese in their discharge permits may be
19 affected by this regulation. Such facilities
20 include landfills, wastewater treatment plants, and
21 power plants. Besides dischargers, public water
22 suppliers of drinking water and other water supply
23 uses of surface water for production activities,
24 could be affected if the proposed first alternative
25 point of compliance is applied to proposed manganese

1 criteria. These other water supply uses may include
2 food and beverage production or preparation, paper
3 and textile manufacturing, aquaculture and
4 irrigation. Under this alternative, the point of
5 compliance for the manganese criterion will be at
6 the point of any planned or existing potable water
7 supply withdrawal.

8 Water suppliers will likely need to
9 conduct additional source water monitoring at their
10 facilities to determine the effects of increased
11 source water manganese levels on their operations.
12 Additionally, as the levels of manganese change its
13 surface water based on discharges, public water
14 suppliers of drinking water may require facility
15 upgrades or additional chemical usage to continue
16 achieving the secondary maximum contaminant level
17 for manganese. Any upgrades to drinking water
18 treatment will likely result in water fee increases
19 for water supply ratepayers.

20 This concludes the summary of the
21 rulemaking. If you would like to access a more
22 detailed explanation of the regulatory amendments
23 included in this rule making, you can visit
24 e-comment on DEP's webpage, select regulations.

25 In order to give everyone an equal

1 opportunity to comment on this proposal, I would
2 like to establish the following ground rules for
3 this hearing. I will call on the witnesses who have
4 registered to testify at this hearing who are shown
5 on my screen. All who registered were assigned a
6 number indicating the order in which witnesses will
7 be called to speak.

8 Only those who registered as indicated
9 on the EQB webpage will be called upon to provide
10 testimony. Testimony is limited to five minutes for
11 each witness. Please note that written and spoken
12 testimony both carry the same weight. If you should
13 run out of time for your spoken testimony, we will
14 read the rest of your comments from your written
15 testimony.

16 As advised in registration
17 correspondence, please provide a copy of your
18 written testimony to REGcomments@pa.gov. Your email
19 must note that you are submitting testimony for
20 proposed rulemaking water quality standard for
21 manganese and implementation, along with your first
22 and last name, mailing address, email address, and
23 if you are commenting on behalf of an organization.

24 Testimony is not required to be five
25 minutes long. If others who provide testimony

1 before you are making similar statements to yours,
2 you are free to abbreviate or summarize your verbal
3 testimony and still provide the full testimony via
4 email. This will help us hear from more commenters
5 at this hearing.

6 You do not have to provide verbal
7 testimony in order to be included in the public
8 record. All written testimony submitted to
9 REGcomments@pa.gov will also be reviewed by the EQB
10 and the Department and included in the public
11 record. The public comment period on this proposed
12 rulemaking closes on September 25th. Public
13 comments will not be accepted for the public record
14 on this proposed rulemaking after that date.

15 Through the registration process,
16 perspective commenters were requested to designate
17 one witness to present testimony on behalf of an
18 organization. Please state your name, address, and
19 affiliation, if applicable, for the record prior to
20 presenting your testimony. The EQB would also
21 appreciate your help by spelling out your name and
22 terms that may not be generally familiar so that the
23 transcript of the hearing can be as accurate as
24 possible.

25 Because the purpose of the hearing is

1 the receive comments on the proposal, EQB members
2 and Department staff cannot address questions about
3 the proposed rulemaking during the hearing.

4 In addition to, or in place of verbal
5 testimony presented at today's hearing, interested
6 persons may also submit written comments on this
7 proposal. Again, written and verbal comments hold
8 the same weight while considered in finalization of
9 this proposed rulemaking. All testimony and written
10 comments provided become a part of the official
11 public record. All comments must be received by the
12 EQB on or before September 25, 2020.

13 There are a few different ways to
14 submit written comments and written comments are
15 separate from testimony. Comments may be submitted
16 online through e-comment accessible from DEP's
17 website. If you go to the website and click on the
18 e-comment link at the bottom of DEP's homepage, it
19 will direct you to that website. Or comments may be
20 submitted by email at REGcomments@pa.gov. The
21 subject heading of the proposed rulemaking and a
22 return name and address must be included in each
23 email. Comments may also be sent through U.S.
24 postal mail addressed to the Environmental Quality
25 Board P.O. Box 8477, Harrisburg, Pennsylvania

1 17105-8477.

2 All testimony received at this hearing
3 as well as written comments received by September
4 25, 2020 will be considered by the EQB and will be
5 included in a comment and response document, which
6 will be prepared by DEP and reviewed by the EQB
7 prior to EQB taking its final action on this
8 regulation.

9 So with that all said, I would like to
10 now call on the first commenter which should be
11 Rachel Gleason.

12 MS. GLEASON: Good afternoon.

13 MR. CHALFANT: Hi, Rachel.

14 MS. GLEASON: Hi. Is it working?

15 MR. CHALFANT: I can hear you fine.

16 I'll go ahead and start the timer and you can
17 proceed with your testimony.

18 MS. GLEASON: My name is Rachel
19 Gleason. I'm the executive director of the
20 Pennsylvania Coal Alliance.

21 The Water Quality Standard for
22 Manganese and Implementation proposed regulation is
23 in response to Act 40 of 2017, which directed the
24 Environmental Quality Board to promulgate within 90
25 days, proposed regulations requiring the water

1 quality criteria for manganese established under 25
2 PA Code Chapter 93, to be met consistent with the
3 exception in 25 PA code 96.3d. The simplicity of
4 Act 40 would require the addition of one word,
5 manganese, to the existing list of exceptions.
6 Nothing in Act 40 required the Department to
7 reevaluate the water quality criteria for manganese.

8 At present, coal mining discharge
9 effluent limitations for manganese are regulated
10 under 40-CFR-434 at 2 milligrams a liter, and these
11 same limits are carried over in 25 PA Code Chapters
12 87 through 90. However, the Department also applied
13 a one milligram a liter potable water supply
14 standard to permanent coal mine discharges directly
15 at the outfall.

16 Meeting the one milligram a liter
17 standard creates a myriad of challenges and
18 conflicts, which includes significant cost increases
19 for treatment and elevation of pH which causes
20 aluminum to fall out and potentially threaten
21 aquatic life. Moreover, treatment to the one
22 milligram a liter standard is more stringent than
23 the Department's own discharges at sites for which
24 it is responsible, and it's a regulatory burden that
25 is inconsistent with federal regulations and

1 effluent limits in other states.

2 Potable water supply by definition is
3 used by humans after conventional treatment for
4 drinking, culinary and other purposes such as
5 inclusion in food products. The listing of
6 manganese as an exception would ensure the 2
7 milligram a liter standard is applied to the coal
8 mining effluent discharges while protecting the
9 water supply withdrawal. In fact, the Department's
10 rationale document for the proposed regulation
11 points out that the one milligram a liter standard
12 was established because an average up-to-date water
13 plant can probably handle soluble manganese
14 concentrations without too much difficulty. A
15 well-designed plant can handle 1.5 to 2 parts per
16 million.

17 After being met with significant
18 resistance from the Department, observing no genuine
19 attempts to comply with Act 40 and being threatened
20 with the assertion that if this provision of Act 40
21 moves forward that the Department would make it
22 worse for industry, we are here today commenting on
23 a poorly constructed proposed regulation that relies
24 on outdated science, a lack of understanding of the
25 fate and transport of manganese and confused

1 compliance points.

2 After the Department presented to the
3 EQB this proposed regulation, the Department's water
4 program invited PCA to a meeting on manganese
5 treatment. At that meeting, PCA brought to the
6 attention of those in attendance the Department's
7 assessment of the toxicology of manganese was
8 incorrect. Additionally, at that meeting, it became
9 evident that the water program had little knowledge
10 of the fate and transport of manganese. There was
11 minimal comprehension of treating effluent
12 discharges. Since then updated science was provided
13 to the water program, but unfortunately not
14 considered as it is not referenced in the
15 Department's list of reviewed literature.

16 The Department's proposal to the EQB
17 does three things. It removes the potable water
18 supply standard of 1 milligram a liter. It adds a
19 toxicity standard of .3 milligrams a liter and
20 requests comment on two points of compliance. One
21 which ignores Act 40 entirely and applies the
22 standard at the outfall, and another which complies
23 with Act 40 and applies the standard to the water
24 supply withdrawal.

25 On July 18, 2003, the U.S. EPA

1 finalized its determination not to regulate
2 manganese with a national primary drinking water
3 regulation because it is generally not considered to
4 be very toxic when ingested with diet, because
5 drinking water accounts for a relatively small
6 proportion of manganese intake. Those high in
7 manganese include turmeric, pumpkin seeds,
8 pineapple, whole wheat bread, toast, and beans,
9 spinach, chip peas, and black tea. Manganese is a
10 nutritionally essential mineral necessary for
11 antioxidant function, bone development, and
12 metabolism, and is available for purchase as a
13 dietary supplement. My multivitamin, which I took
14 this morning, contains 2.3 milligrams of manganese.

15 The Department's intent to develop a
16 rationale that establishes manganese as toxic to
17 human health is based on a misunderstanding of
18 science and a omission of the most recent science,
19 most notably a 2019 study by you titled assessing
20 children's exposure to manganese in drinking water
21 using APBP K Model.

22 Department's proposed toxicity
23 standard is overly conservative. Current science
24 indicates that the existing one milligram a liter
25 potable water supply standard will not lead to

1 adverse health effects. And moreover, there is no
2 conclusive evidence of the manganese concentration
3 of two milligrams a liter, which is the standard for
4 coal effluent discharges, will lead to adverse
5 health effects.

6 In understanding the fate and
7 transport of manganese, most effluent discharges in
8 stream experience manganese falling out within a
9 mile of the discharge. Given most coal mines are on
10 average 40 miles away from a water withdrawal,
11 factor in assimilation, the added protection of the
12 required reasonable protection analysis TGD and
13 existing mandatory requirement meet the two
14 milligram a liter discharge is naturally occurring
15 and it will have no impact on human health or any
16 water supply withdrawals.

17 Outside of the flawed development of
18 the proposed toxicity standard, applying it in
19 stream will lead to \$44 to \$88 million in excessive
20 over treatment costs for Pennsylvania's bituminous
21 coal operators, will discourage private investment
22 in addressing Pennsylvania's legacy mine discharges,
23 will discourage any re-mining under the subchapters
24 F and G programs, will significantly increase the
25 Department's cost of treating water at sites under

1 its responsibility, if the Department were to comply
2 with the regulation, will increase treatment costs
3 to water treatment organizations if they were to
4 comply with the regulation, and will negatively
5 impact a number of other industries the Department
6 has considered.

7 Due to time restrictions on testimony,
8 the PCA will submit more detailed testimony in
9 writing within what I am offering today. Thank you
10 for the opportunity to virtually testify.

11 MR. CHALFANT: Thank you for your
12 testimony, Rachel. The next person who registered
13 to provide testimony is Lisa Baily. Are you with
14 us, Lisa?

15 MS. BAILEY: Yes, I am.

16 MR. CHALFANT: Okay.

17 MS. BAILEY: Can you hear me okay?

18 MR. CHALFANT: I can hear you. I'll
19 start the timer and go ahead and begin your
20 testimony when you'd like.

21 MS. BAILEY: Okay. Hello, and thank
22 you for the opportunity to provide testimony today
23 on Pennsylvania DEP's proposed rulemaking for the
24 water quality criterion for manganese. My name is
25 Dr. Lisa Bailey. I am a principal scientist

1 employed by Gradient, an environmental consulting
2 firm in Boston, Massachusetts. I have more than 20
3 years' experience in the field of human health risk
4 assessment in toxicology, and have extensive
5 experience evaluating potential human health risks
6 from exposure to manganese in air, water and soil.

7 At the request of the Pennsylvania
8 Coal Alliance, I and my Gradient colleagues have
9 reviewed the derivation of the Pennsylvania DEP
10 proposed water quality criterion for manganese of
11 0.3 milligram per liter, and whether that criterion
12 is necessary to protect human health. Based on our
13 analysis, we conclude that the proposed criterion is
14 overly conservative and is not consistent with the
15 current state of the science for manganese and human
16 health effects.

17 As I will describe further, the
18 current one milligram per liter manganese water
19 quality criterion is protective for human
20 consumption. In addition, it is very important to
21 keep in mind that it is highly unlikely that someone
22 would use untreated surface water as their main
23 source of drinking water. The drinking water that
24 most Pennsylvania citizens consume will be after the
25 water is treated to meet the manganese secondary

1 maximum contaminant drinking water level of 0.05
2 milligrams per liter, which is based on odor and
3 staining and not on adverse health effects, and is
4 well below the 0.3 milligrams per liter proposed
5 surface water criterion. Therefore, not only is the
6 proposed criterion overly protective regardless of
7 where on the surface water body it is applied, the
8 proposed criterion is based on a hypothetical
9 scenario that will almost never occur, providing
10 support that application of the criterion at the
11 point of intake is health protective.

12 In fact, our analysis found that
13 application of the criterion at the point of intake
14 is also health protective for more typical surface
15 water uses such as swimming and fishing.

16 It is important to keep in mind that
17 manganese is an essential nutrient needed for normal
18 functioning of the human body. However, in high
19 exposure concentrations mostly observed from high
20 occupational exposures via inhalation, manganese can
21 cause adverse neurological effects. As for oral
22 exposures, there are no studies currently available
23 to provide reliable evidence of an oral manganese
24 dose in humans that leads to adverse health effects.

25 Therefore, unlike other substances for

1 which EPA has derived oral reference doses based on
2 studies of adverse health effects, the manganese
3 reference dose derived by EPA in 1995, and last
4 reviewed in 2002, is not based on the study of
5 adverse health effects, but instead is based on an
6 upper tolerable dietary intake level of manganese
7 which is considered safe.

8 Pennsylvania DEP proposed manganese
9 water quality criterion relies on this reference
10 dose, and on a modifying factor of three applied to
11 the reference dose, it is also recommended by EPA
12 for evaluating risks for non-food exposure pathways
13 including drinking water.

14 The main reasons EPA describes
15 supporting the need to the application of the
16 modifying factor are, one, some studies available at
17 the time suggested possible adverse health effects
18 in humans following a lifetime consumption of two
19 milligrams per liter manganese in water, and two,
20 there was concern for possible increased uptake of
21 manganese from water compared to food particularly
22 in infants.

23 However, our review of the studies
24 available at the time indicates that there was no
25 conclusive evidence to support either of these

1 concerns. In fact, EPA described a number of
2 limitations in the human drinking water studies and
3 noted that none of the human studies were of
4 sufficient quality to us to derive an oral manganese
5 reference dose. Two, EPA also described a key study
6 that found no significant differences in
7 bioavailability of manganese from food and water.

8 Although EPA discussed possible
9 increased uptake of manganese in individuals as an
10 additional basis for the modifying factor three,
11 there are no published studies that provide support
12 for this concern. Since PA's last review of its
13 evaluation of manganese in 2002, more data have
14 become available that provides support for removal
15 of the modifying factor three. In particular,
16 recent application of physiologically based
17 pharmacokinetic model, or PBPK model, for manganese
18 published in two studies by Song et al. and Yoon et
19 al. in 2018 and 2019 provide further evidence that,
20 one, manganese is not more bioavailable in drinking
21 water compared to food. Two, manganese is not more
22 readily found in formula feed infants compared to
23 breastfed infants or compared to children and
24 adults. And three, manganese drinking water
25 concentrations of one milligram per liter did not

1 alter manganese brain concentrations beyond normal
2 levels for all age groups evaluated.

3 Therefore, we conclude based on the
4 most current scientific information available that
5 modifying factor three is not needed for risk
6 evaluation of manganese in drinking water, and that
7 removal of the modifying factor of three from DEP's
8 proposed manganese water quality criterion results
9 in the current one milligram per liter criterion
10 that is protective for human consumption. Thank you
11 very much.

12 MR. CHALFANT: Thank you for your
13 testimony, Dr. Bailey. Next person that registered
14 to testify is Kelly Anderson. Are you here, Kelly?

15 MS. ANDERSON: Yes.

16 MR. CHALFANT: Okay.

17 You can go ahead with your testimony.

18 MS. ANDERSON: Sure. Good afternoon.

19 My name is Kelly Anderson, and I am a scientist who
20 oversees Philadelphia Water Department's water
21 resources planning and protection programs. The
22 Philadelphia Water Department appreciates the
23 opportunity to provide comment on proposed revisions
24 to 25 PA Code Chapter 93 and Chapter 96, ambient
25 manganese regulations. The department plans to

1 submit more in depth written comments regarding the
2 proposed rulemaking, but we would like to use this
3 opportunity to highlight a few key points.

4 First, we want to address the point of
5 compliance exemption proposed as required by
6 Pennsylvania Act 40 of 2017. Our department
7 supports rulemaking proposals based on sound science
8 that provide public health benefits to the
9 Commonwealth. As many are aware, the proposal to
10 apply this exemption was hastily tacked on to an
11 entirely unrelated administrative bill by
12 Pennsylvania's elected officials. This action sets
13 an alarming precedent for environmental rulemaking.
14 It is our sincere hope that all future rulemakings
15 will continue to be initiated in a way that allows
16 adequate time for scientific review by both external
17 stakeholders and the Department of Environmental
18 Protection who have been tasked by law with the very
19 important responsibility of protecting both
20 Pennsylvania residents and our environment from
21 pollution.

22 PWD provides drinking water to 1.6
23 million residents of the Commonwealth. Recognizing
24 that impacts to water quality even far up stream in
25 Philadelphia inevitably affect the city source

1 waters and its points of intake, PWD has embraced a
2 comprehensive watershed protection approach to honor
3 our commitment to providing safe high quality
4 drinking water to the City of Philadelphia.

5 As our response letter to the advance
6 notice of proposed rulemaking indicates, we are
7 extremely concerned with Act 40's directive to
8 essentially deregulate manganese discharges. As you
9 a utility, we have been dedicated to supporting
10 abandoned mine drainage cleanup efforts in the upper
11 region of source watershed for nearly 20 years to
12 reduce metals pollution, and this rule would be a
13 step backward in the environmental progress we have
14 collectively made with our extensive network of
15 partner organizations. Aquatic life and recreating
16 members of the public throughout the state would
17 suffer the consequences of such a broad
18 deregulation.

19 Secondly, I want to address replacing
20 the existing Chapter 93 water quality criterion of
21 1.0 milligrams per liter for protection of the
22 potable water supply use with a 0.3 milligrams per
23 liter manganese criterion for human health toxic
24 substances criteria to be applied to all use
25 designations. While manganese may produce negative

1 neuro toxicological effects at very high doses of
2 exposure and negative aesthetic impacts to drinking
3 water at very low concentrations, there is no
4 research that conclusively demonstrates and should
5 be classified as a toxic substance when in an
6 aqueous state at naturally occurring levels.

7 Due to its widespread presence in the
8 Earth's crust, existing and natural ambient
9 manganese concentrations throughout Pennsylvania may
10 be above the proposed 0.3 milligram per liter human
11 health criterion. For drinking water utilities in
12 those areas, this may require a greater investment
13 in residuals management with no discernable benefit
14 and at a cost which may be passed on to customers in
15 the form of rate increases.

16 Adapting manganese as a toxic
17 substance and establishing a much more stringent
18 human health criterion would also unnecessarily
19 burden those wastewater utilities with additional
20 monitoring and removal required as part of the NPDES
21 program. As no national primary drinking water
22 standard yet exists for manganese, it would be
23 inappropriate and excessive to apply a concentration
24 limit equivalent to the current highly protective
25 ten-day drinking water health advisory level for

1 infants to the ambient water quality of Pennsylvania
2 streams. Furthermore, elevated manganese in
3 drinking water may often be attributed to plumbing
4 issues that would not be alleviated by the
5 implementation of the proposed ambient water quality
6 standard.

7 It is for these reasons that
8 Philadelphia Water Department requests that the EQB
9 reject the proposal to modify the existing manganese
10 water quality criterion and the point of compliance
11 at this time. Thank you.

12 MR. CHALFANT: Thank you, Kelly. The
13 person who had registered fourth - who registered to
14 testify fourth is no longer able to provide
15 testimony, so we will move on to the person who
16 registered fifth, Matthew McCann. Are you on,
17 Matthew?

18 MR. MCCANN: Yes, I'm here.

19 MR. CHALFANT: Okay.

20 Please proceed with your testimony.

21 MR. MCCANN: Okay. My name is Matthew
22 McCann, and I am a scientist for the Delaware River
23 Keeper Network. The Delaware River Keeper Network
24 supports the addition of manganese to the list of
25 toxic substances relating to human health and

1 aquatic life criteria.

2 The science has shown that human
3 exposure to levels of manganese beyond those
4 necessary for maintaining adequate health can lead
5 to excess manganese in brain tissue resulting in
6 symptoms that mimics Parkinson's disease. Depending
7 on the length and the severity of the exposure,
8 these neurological effects may result in permanent
9 irreversible damage to the brain.

10 Manganese is also harmful to aquatic
11 life. Numerous studies have shown that the effects
12 of manganese on fish include impaired gill functions
13 and hormonal and metabolic interference. Excess
14 manganese also has negative implications for water
15 uses such as agriculture. The EPA found the
16 irrigation water contained manganese at
17 concentrations slightly of less than one milligram
18 per liter to a few milligrams per liter may be toxic
19 to plants when applied to soils with pH values lower
20 than six.

21 The existing potable water supply
22 criterion of one milligram per liter from DEP is
23 based on taste, odor and to prevent laundry
24 staining. It does not take human health, aquatic
25 life or water supply use into consideration and is,

1 therefore, inadequate to protect these uses. It is
2 also higher than the EPA health advisory and other
3 national and international standards set by
4 governmental bodies. The Delaware River Keeper
5 Network supports DEP's proposal to change the
6 manganese criterion to .3 milligrams per liter.

7 The EPA's Lifetime Health Advisory for
8 adults and children is also .3 milligrams per liter
9 and was calculated using the reference dose in the
10 integrated risk information system. Adopting a
11 manganese criterion of .3 milligrams per liter in
12 Pennsylvania would match the EPA's health advisory
13 and be more protective to human health, aquatic life
14 and water supply use.

15 In addition, the Delaware River Keeper
16 Network believes that the first point of compliance
17 alternative is inadequate because no water quality
18 based effluent limits would apply to surface water
19 if no potable water supply exists or is planned.
20 Aquatic life would not be granted adequate
21 protection under this alternative because stream
22 segments and aquatic ecosystems would not be subject
23 to the manganese effluent limits unless they are
24 located close to a potable water supply. There
25 could be long stretches of open water from the point

1 of discharge to the nearest potable water supply
2 that would be left completely vulnerable. Manganese
3 is a persistent contaminant that can be carried long
4 distances downstream. The only way to prevent
5 manganese from reaching downstream sections is to
6 enforce effluent limits at the point of discharge.

7 The first alternative would shift the
8 burden of manganese removal onto public water
9 suppliers instead of the dischargers. This
10 alternative is harmful and only benefits entities
11 holding or seeking permits to discharge manganese
12 into the surface waters with the Commonwealth. The
13 second alternative maintains the current point of
14 compliance for manganese and all surface waters at
15 the point of discharge.

16 The Delaware River Keeper Network
17 strongly supports the second alternative. Under
18 this alternative, the manganese criterion for the
19 protection of human health would be applicable in
20 all surface waters to protect all relevant water
21 uses. The threshold at which manganese needs to be
22 maintained in surface water to avoid toxicity to
23 humans is lower than the level necessary to afford
24 appropriate protection for aquatic life. Because of
25 this, this alternative would afford aquatic life an

1 appropriate level of protection from the negative
2 impacts of manganese. Additional protections would
3 be provided to the potable water supply use and
4 other protective water supply uses such as
5 irrigation, wildlife water supply, livestock water
6 supply, aesthetics, fishing, boating, and water
7 contact recreation. There are also cost savings by
8 public water systems because manganese levels in
9 source waters could be lower and less treatment
10 would be necessary to meet drinking water
11 regulations.

12 If the proposed manganese criterion of
13 .3 milligrams per liter is adopted and the second
14 point of compliance alternative is adopted as well,
15 all users of surface waters will benefit. These
16 regulations are a necessary step to protect the
17 health of all Pennsylvania residents while
18 simultaneously protecting aquatic life and the
19 natural resources that we depend on. Thank you for
20 the opportunity to provide these comments.

21 MR. CHALFANT: Thank you, Matthew.
22 That's the end of the list of folks who
23 preregistered to testify. Darek, is there a way we
24 can unmute to see if there's anybody else on the
25 line who did not preregister who wishes to give

1 testimony?

2 MR. JAGIELA: If they'd like to make a
3 request in the chat, that'd probably the best method
4 rather than unmuting everyone.

5 MR. CHALFANT: Okay.

6 So if there's anybody else on the line
7 who would like to provide testimony and did not
8 preregister, please indicate so in the chat. Give a
9 minute or two for that.

10 MR. JAGIELA: You can turn that chat
11 on at the bottom of your screen. There's a little
12 chat bubble. If you click that, it'll open up on
13 the right-hand side of your screen.

14 MR. CHALFANT: Okay.

15 I'm not seeing anything yet. I will
16 give another minute.

17 In the meantime, I put in the email
18 address there that I mentioned in the introduction
19 earlier, the REGcomments@pa.gov, if anybody wants to
20 submit written comments there as well, that's the
21 place to do it or there's also the e-comment which
22 again I mentioned you can access through DEP's
23 website.

24 We're not seeing anybody else indicate
25 they'd like to give testimony, so in that case, I'd

1 like to on behalf of the EQB hereby adjourn this
2 hearing at 2:34 p.m.

3 * * * * *

4 HEARING CONCLUDED AT 2:34 P.M.

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I hereby certify that the foregoing proceedings, hearing held before Director Chalfant, was reported by me on 9/8/2020 and that I, Derek Richmond, read this transcript, and that I attest that this transcript is a true and accurate record of the proceeding.



Derek Richmond,
Court Reporter