Submit Time: 5/26/2010 16:10:05
From: CN=Rose Allison/OU=DC/O=USEPA/C=US
To: CN=Yintak Woo/OU=DC/O=USEPA/C=US@EPA
Cc: CN=Jennifer Seed/OU=DC/O=USEPA/C=US@EPA
Subject: Re: Fw: Species proposal for Chronic Toxicity/Carcinogenicity Study [OPPTS 870.4300]

Thanks Yintak. I will communicate with the company. Rose

Rose Allison For Deliveries
Team Leader **EPA East Building**
New Chemicals Program *1201 Constitution Ave NW *
Chemical Control Division (7405M) **Room 4419G**
US EPA **Wash DC 20004**
1200 Pennsylvania Ave. NW
Washington, DC 20460
202/564-8970/FAX 202/564-9490

Yintak Woo---05/26/2010 11:32:19 AM---Jennifer and I have reviewed the proposal. We agree that, considering the various pros and cons, it

From: Yintak Woo/DC/USEPA/US

To: Rose Allison/DC/USEPA/US@EPA

Cc: Bob Morcock/DC/USEPA/US@EPA, Donald Rodier/DC/USEPA/US@EPA, Greg Schweer/DC/USEPA/US@EPA, Jennifer Seed/DC/USEPA/US@EPA

Date: 05/26/2010 11:32 AM

Subject: Re: Fw: Species proposal for Chronic Toxicity/Carcinogenicity Study [OPPTS 870.4300]

Jennifer and I have reviewed the proposal. We agree that, considering the various pros and cons, it is the most logical choice.

Yin-tak Woo, Ph.D., DABT
Senior Toxicologist
U.S. Environmental Protection Agency
Washington, DC 20460
202-564-7603

Rose Allison---05/18/2010 11:54:42 AM---This is the company proposal with rationale for the choice of species between the rat and the mouse

From: Rose Allison/DC/USEPA/US

To: Yintak Woo/DC/USEPA/US@EPA, Jennifer Seed/DC/USEPA/US@EPA

Cc: Greg Schweer/DC/USEPA/US@EPA, Bob Morcock/DC/USEPA/US@EPA, Donald Rodier/DC/USEPA/US@EPA

Date: 05/18/2010 11:54 AM

Subject: Fw: Species proposal for Chronic Toxicity/Carcinogenicity Study [OPPTS 870.4300]

This is the company proposal with rationale for the choice of species between the rat and the mouse for the 2-year study. Yintak has previously reviewed the protocols for this study. The company has conducted a 90-day in the rat and the mouse and EPA has received these studies for review. RAD has reviewed the 90-day in the rat. Please review this proposal (at the very bottom of this message), if possible by 5/27/10. Rose

Rose Allison
Team Leader
New Chemicals Program
Chemical Control Division (7405M)
US EPA
1200 Pennsylvania Ave. NW
Washington, DC 20460
202/564-8970/FAX 202/564-9490

For Deliveries
EPA East Building
*1201 Constitution Ave NW *
Room 4419G
Wash DC 20004

----- Forwarded by Rose Allison/DC/USEPA/US on 05/18/2010 11:38 AM -----

From: Jane Bradd Andersen <JANE-BRADD.ANDERSEN@usa.dupont.com>

To: Rose Allison/DC/USEPA/US@EPA

Date: 05/11/2010 10:14 AM

Subject: Species proposal for Chronic Toxicity/Carcinogenicity Study [OPPTS 870.4300]

Good morning Rose.

At the April 7, 2010 meeting with representatives from DuPont and the Agency, it was suggested that DuPont draft a proposal for species selection for Chronic Toxicity/Carcinogenicity Study [OPPTS 870.4300] [OECD 453]. I have attached a copy of DuPont's proposal for agency review and guidance.

If you have any questions, please give me a call.

Kind regards,

Jane Bradd-Andersen
tel:302-999-2377
blackberry: Personal Phone / Ex. 6
fax:302-999-2177
jane-bradd.andersen@usa.dupont.com

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Francais Deutsch Italiano Espanol Portugues Japanese Chinese Korean

http://www.DuPont.com/corp/email_disclaimer.html
[attachment "Species Proposal For Chronic Toxicity.doc" deleted by Rose Allison/DC/USEPA/US]

DuPont Haskell Global Centers
for Health and Environmental Sciences
1090 Elkton Road, P.O. Box 50
Newark, DE 19714-0050

February 5, 2010

Via Federal Express

Document Processing Center (Mail Code 7407M)
Room 6428
Attention: 8(e) Coordinator
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency, ICC Building
1201 Constitution Ave., NW
Washington, DC 20004

Dear 8(e) Coordinator:

PBI / Ex. 4

This letter is to inform you of the preliminary results of a developmental toxicity study in rats with the above referenced test substance. This test substance is subject to a Consent Order, PMN P-08-509.

Groups of 22 time-mated Crl:CD(SD) rats were administered solutions of the test substance in deionized water at dose levels of 0, 10, 100, or 1000 mg/kg/day. Dosing was initiated on gestation day (GD) 6 and continued through GD 20. During the in-life portion of the study, maternal body weights and food consumption as well as clinical observations data were collected. On GD 21, dams were euthanized and underwent a gross external and internal examination. Weights for maternal livers and kidneys were recorded and these tissues were preserved for future histopathologic examination. The gravid uteri were removed, weighed, and dissected. Uterine contents were described and fetuses were counted, weighed, sexed, and examined for external, visceral, head, and skeletal alterations.

PBI / Ex. 4

This information is submitted in accordance with current guidance issued by EPA indicating EPA's interpretation of Section 8(e) of the Toxic Substances Control Act or, where it is not clear that reporting criteria have been met, it is submitted as a precautionary measure and because it is information in which EPA may have an interest.

Sincerely,

A. Michael Kaplan/cp

A. Michael Kaplan, Ph.D.
Director - Regulatory Affairs

AMK/SMM: clp
(302) 366-5260

Submit Time: 7/12/2010 16:18:04
From: CN=Rose Allison/OU=DC/O=USEPA/C=US
To: Donna C Laudisi <Donna.C.Laudisi@USA.dupont.com>
Cc:
Subject: Re: Fw: 2 Year Study Protocol Revisions

Donna, These changes are not substantive. Please have Jane check in later this week when she returns.
Rose

Rose Allison
Team Leader
New Chemicals Program
Chemical Control Division (7405M)
US EPA
1200 Pennsylvania Ave. NW
Washington, DC 20460
202/564-8970/FAX 202/564-9490

For Deliveries
EPA East Building
*1201 Constitution Ave NW *
Room 4419G
Wash DC 20004

Donna C Laudisi ---07/12/2010 11:59:35 AM---Rose: This is the email note I am referring to in my voicemail message to you

From: Donna C Laudisi <Donna.C.Laudisi@USA.dupont.com>

To: Rose Allison/DC/USEPA/US@EPA

Cc: Donna C Laudisi <Donna.C.Laudisi@USA.dupont.com>

Date: 07/12/2010 11:59 AM

Subject: Fw: 2 Year Study Protocol Revisions

Rose:

This is the email note I am referring to in my voicemail message to you this morning. Any update you can give will be appreciated. As mentioned in my voicemail, the pups are scheduled to be shipped tomorrow so if the EPA does not approve our revisions by close of business today, we will have to cancel the order.

Thanks and regards,
Donna

----- Forwarded by Donna C Laudisi/AE/DuPont on 07/12/2010 11:53 AM -----
Donna C Laudisi/AE/DuPont

07/02/2010 03:20 PM

To allison.rose@epamail.epa.gov

cc Donna C Laudisi/AE/DuPont@DuPont, James R Hoover/AE/DuPont@DuPont

Subject 2 Year Study Protocol Revisions

Dear Rose:

Thank you so much for your guidance this afternoon. Jim and I certainly appreciated it.

Attached is the revised 2 year study protocol we discussed (with the edits in tracked mode) for the Agency's review and approval.

The changes from what was sent to EPA previously are:

The study director and alternate contact people have changed (due to change in work assignment of the originally assigned study director)

An additional 10 animals per group were added to each group to bring the number designated for carcinogenicity evaluation from 60 to 70 per group. This was done because of concerns about survival due to the requirement to ad lib feed.

While we were waiting for EPA's approval, the lab conducted the analytical method validation, including verifying stability of the test substance in the diet. Therefore, this work does not need to be repeated on samples from diets prepared for the study and the references to stability evaluation were removed from the protocol (the validation work was referenced to support this).

A few changes were made to their sentinel animal health evaluation procedures.

The study is scheduled to begin on July 29. Let me or Jim Hoover know if you have any questions.

Best regards,

Donna Laudisi
DuPont Chemicals and Fluoroproducts
Wilmington, Delaware
302-999-4018 - phone
Personal Phone / Ex. 6 Blackberry
302-999-3921 - fax

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Francais Deutsch Italiano Espanol Portugues Japanese Chinese Korean

http://www.DuPont.com/corp/email_disclaimer.html
[attachment "125-141 protocol 6_28_10 sam comments.doc" deleted by Rose Allison/DC/USEPA/US]

Subject: Re: Fw: DuPont PFOA Replacement Permit
From: CN=Laurence Libelo/OU=DC/O=USEPA/C=US
To: CN=Toni Krasnic/OU=DC/O=USEPA/C=US@EPA
Cc: CN=Greg Fritz/OU=DC/O=USEPA/C=US@EPA CN=Rose Allison/OU=DC/O=USEPA/C=US@EPA
Submit Time: 2/8/2012 16:51:16

Thanks.

One wonders about the WV tox review. But this is not PFOA so it is by definition good right?

I shared this with ORD yesterday. They are out in the field taking samples near the DuPont plant in NC today and will look at these in the river water and effluent samples.

They also told me they are seeing some of the Adona chemicals in the PPM - that is PPM levels. It will be interesting to see what they find when they look at these.

Laurence

-----Toni Krasnic/DC/USEPA/US wrote: -----
To: Rose Allison/DC/USEPA/US@EPA, Greg Fritz/DC/USEPA/US@EPA, Laurence Libelo/DC/USEPA/US@EPA
From: Toni Krasnic/DC/USEPA/US
Date: 02/08/2012 10:58AM
Subject: Fw: DuPont PFOA Replacement Permit

Non-CBI info on DuPont's C3 dimer.

Toni
564.0984
----- Forwarded by Toni Krasnic/DC/USEPA/US on 02/08/2012 10:56 AM -----

From: "Bilott, Robert A." <bilott@taftlaw.com>
To: Cathy Fehrenbacher/DC/USEPA/US@EPA, KarenD Johnson/R3/USEPA/US@EPA, Toni Krasnic/DC/USEPA/US@EPA
Date: 02/07/2012 10:23 AM
Subject: DuPont PFOA Replacement Permit

FYI

Taft /

Robert A. Bilott / Partner
Taft Stettinius & Hollister LLP
425 Walnut Street, Suite 1800
Cincinnati, Ohio 45202-3957
Tel: 513.381.2838 • Fax: 513.381.0205

Direct: 513.357.9638 • Cell: Personal Phone / Ex. 6
www.taftlaw.com / bilott@taftlaw.com

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###

(See attached file: [Untitled].pdf)

[attachment "[Untitled].pdf" removed by Laurence Libelo/DC/USEPA/US]

Rose Allison/DC/USEPA/US
11/10/2008 02:52 PM

To Jim Willis/DC/USEPA/US@EPA,
cc Greg Schweer/DC/USEPA/US@EPA
bcc
Subject Re: Fw: Consent order expedite

Yes, I'm working on a draft to share with DuPont this week. Lots of info.

Rose Allison
Senior Specialist
New Chemicals Program
Chemical Control Division (7405M)
US EPA
1200 Pennsylvania Ave. NW
Washington, DC 20460
202/564-8970/FAX 202/564-9490

For Deliveries
EPA East Building
*1201 Constitution Ave NW
Room 4419H
Wash DC 20004

Jim Willis/DC/USEPA/US

Jim Willis/DC/USEPA/US
11/07/2008 06:48 PM

To Rose Allison/DC/USEPA/US@EPA
cc
Subject Fw: Consent order expedite

Are these the two we just did at DDs? Please advise.

----- Forwarded by Jim Willis/DC/USEPA/US on 11/07/2008 06:45 PM -----

Charles Auer/DC/USEPA/US
11/07/2008 04:42 PM

To Jim Willis/DC/USEPA/US
cc
Subject Fw: Consent order expedite

Jim
Let me know status. Thanks

Charles M Auer, Director
Office of Pollution Prevention and Toxics
U.S. EPA

Sent by EPA Wireless E-Mail Services

From: "Richard Holt" [HoltRF1@comcast.net]
Sent: 11/07/2008 04:28 PM EST
To: Charles Auer
Subject: Consent order expedite

Good day Charlie.

While in Paris I mentioned to you that anything that could be done to expedite completion of the Consent Order for the substances in our new MAN project would be very helpful. You asked that I send the specifics to you. Here they are:

Here's how the substances are identified. **EPA PMN case number P-08-508 and P-08-509.** If you need anything else - please let me know.

Thanks again for your help!

Rick

Subject: Fw: URGENT ISSUE: 18405-1037 mouse study blood collection amendment -
To: CN=Jim Alwood/OU=DC/O=USEPA/C=US@EPA
Cc: Greg Schweer/DC/USEPA/US@EPA
From: CN=Rose Allison/OU=DC/O=USEPA/C=US
Submit Time: 5/3/2010 15:08:56

Oh, it was today anyway I'm handling it now...thanks Jim.

Rose Allison For Deliverie
----- Forwarded by Rose Allison/DC/USEPA/US on 05/03/2010 11:07 AM -----

From: Jim Alwood/DC/USEPA/US

To: Greg Schweer/DC/USEPA/US@EPA

Cc: Rose Allison/DC/USEPA/US@EPA

Date: 05/02/2010 10:53 PM

Subject: Re: Fw: URGENT ISSUE: 18405-1037 mouse study blood collection amendment -

---

I couldn't find anyone in RAD who would return a phone call. I had Hoover leave a message with Jennifer and an email. Will check on outcome in the morning. Will be in early on Monday and check at least with Phil who arrives at 7 am.

After reading the email I wish they had asked for forgiveness instead of permission.

-----Greg Schweer/DC/USEPA/US wrote: -----

To: Rose Allison/DC/USEPA/US@EPA, Jim Alwood/DC/USEPA/US@EPA
From: Greg Schweer/DC/USEPA/US
Date: 05/02/2010 12:59PM
Subject: Fw: URGENT ISSUE: 18405-1037 mouse study blood collection amendment -

Jim,

Did J. Hoover get in touch with you Friday and, if so, was anyone in RAD around to make a decision?

Greg Schweer
Chief, New Chemicals Management Branch
Chemical Control Division
U.S. EPA, Office of Pollution Prevention and Toxics
(202)564-8469

-----Forwarded by Greg Schweer/DC/USEPA/US on 05/02/2010 12:56PM -----

To: Greg Schweer/DC/USEPA/US@EPA
From: James R Hoover <James.R.Hoover@USA.dupont.com>
Date: 04/30/2010 03:57PM
Subject: Fw: URGENT ISSUE: 18405-1037 mouse study blood collection amendment -

Hi Greg....My personal apologies for this very late discovery, and even later communication to Rose and to you, on this issue. This is clearly our mistake, and I take full responsibility for it.

I called Rose to give her a heads-up on the enclosed EMails (below). I now understand from Rose's Voicemail that she is out today.

For us to proceed as indicated, I think we would need a "non-objection" Email from EPA relative to this EMail before 6:00am this coming Monday morning (May 3rd).

The details are show below.

Any advice would be much appreciated. We fully realize this may be difficult to impossible, but I wanted to make fully sure that what ever we do is totally right.

Again, my apologies.

Very best regards, Jim

Jim Hoover, FPS Global Regulatory Manager

DuPONT DCF/FPS
CRP 702, Room 2116
Wilmington, DE 19880

BBerry: Personal Phone / Ex. 6

----- Forwarded by James R Hoover/AE/DuPont on 04/30/2010 03:40 PM -----

James R Hoover/AE/DuPont 04/30/2010 03:11 PM

To Allison.Rose@epamail.epa.gov

cc Gary W Jepson/AE/DuPont@DuPont, Steven R Frame/AE/DuPont@DuPont, Susan M Munley/AE/DuPont@DuPont, Jane Bradd Andersen/AE/DuPont@DuPont

Sub Fw: URGENT ISSUE: 18405-1037 mouse study blood collection amendment - ject

Hi Rose...Jane is away on vacation, and out of communication range.

My personal, and DuPont company, apologies for this late and urgent 'non-objection' request consideration, but our GenX Toxicity Team has just realized that we overlooked a CRITICAL study design issue in the 18405-1937 Mouse Study Blood Collection Amendment just approved by EPA.

The details are outlined in the Notes from Randy Frame and Sue Munley, shown below.

Given the circumstances and timing, what options do we have to proceed, with EPA agreement, for

what Randy and Sue recommend (i.e. a non-objection to proceed).

We fully realize this may be difficult to impossible, but I wanted to make fully sure that what ever we do is totally right.

Many thx for your advice...best regards, Jim

Jim Hoover, FPS Global Regulatory Manager

DuPONT DCF/FPS
CRP 702, Room 2116
Wilmington, DE 19880

BBerry: Personal Phone / Ex. 6

----- Forwarded by James R Hoover/AE/DuPont on 04/30/2010 02:50 PM -----

Steven R Frame/AE/DuPont

04/30/2010 11:46 AM

To James R Hoover/AE/DuPont@DuPont, Jane Bradd Andersen/AE/DuPont@DuPont

cc Gary W Jepson/AE/DuPont@DuPont, Susan M Munley/AE/DuPont@DuPont

Subject URGENT ISSUE: 18405-1037 mouse study blood collection amendment -

Jim, Jane,

Please see Sue's note below. In order to get any useful results from the blood collection on adult females in the mouse study, we need to administer a dose on the day of sacrifice (in the current protocol, the last dose is the day before sacrifice). Without a day-of-sacrifice dosing, the blood data from the moms will be of little value. Therefore, it is near certain the EPA would concur with this minor change in procedure since they suggested the blood collection in the first place, and they undoubtedly want the most useful information. Further, this would have no effect on the study results since the animals are sacrificed very soon after the extra dose. Nevertheless, we will need your OK, and EPA's OK to proceed, and we must have this OK before Monday due to the stage of the test we are in. The new amendment could be to the EPA on Monday or soon thereafter.

Randy

----- Forwarded by Steven R Frame/AE/DuPont on 04/30/2010 11:38 AM -----

Susan M Munley/AE/DuPont

04/30/2010 11:37 AM

To Steven R Frame/AE/DuPont@DuPont, Gary W Jepson/AE/DuPont@DuPont

cc

Subject 18405-1037 mouse study blood collection amendment - URGENT ISSUE

While preparing to execute the blood collection for plasma TK as dictated by the recently-approved protocol amendment 4, we realized that we overlooked a CRITICAL study design issue.

As per protocol, adult animals are scheduled to be dosed through one day PRIOR to scheduled euthanasia.

Based on existing data, blood collection scheduled for two hours following the last dose is the optimal and most meaningful time for collection.

We cannot obtain enough volume for this work without making the bleed a terminal bleed.

Therefore, we need to write another amendment (draft attached below) to specify that animals will be administered a single additional dose on the morning of scheduled euthanasia and then euthanized two hours following that dose.

I am writing to seek non-objection to proceed with this beginning this coming Monday morning, May 3.

The first F0 females to reach PND 21 are scheduled to have their litters weaned and be subsequently euthanized this coming Monday morning.

As these procedures will clarify and improve upon the data dictated by the previously approved amendment 4, please let me know if we can proceed with approving this work to begin on Monday.

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http://www.DuPont.com/corp/email_disclaimer.html

[attachment "189225 Draft Amendment 5 043010.doc" removed by Jim Alwood/DC/USEPA/US]

Subject: Re: Fw: URGENT ISSUE: 18405-1037 mouse study blood collection amendment -
To: Greg Schweer/DC/USEPA/US@EPA
Cc: CN=Kenneth Moss/OU=DC/O=USEPA/C=US@EPA CN=Jim Alwood/OU=DC/O=USEPA/C=US@EPA
From: CN=Rose Allison/OU=DC/O=USEPA/C=US
Submit Time: 5/3/2010 15:03:32

Hi GregJim spoke with Jennifer last Friday, but it seems that Jim Hoover is ok with hearing more today, Monday, May 3. I'll handle it. Rose

---

Rose Allison For Deliveries
Team Leader **EPA East Building**
New Chemicals Program *1201 Constitution Ave NW *
Chemical Control Division (7405M) **Room 4419G**
US EPA **Wash DC 20004**
1200 Pennsylvania Ave. NW
Washington, DC 20460
202/564-8970/FAX 202/564-9490

Greg Schweer---05/02/2010 12:59:01 PM---Jim,

From: Greg Schweer/DC/USEPA/US

To: Rose Allison/DC/USEPA/US@EPA, Jim Alwood/DC/USEPA/US@EPA

Date: 05/02/2010 12:59 PM

Subject: Fw: URGENT ISSUE: 18405-1037 mouse study blood collection amendment -

---

Jim,

Did J. Hoover get in touch with you Friday and, if so, was anyone in RAD around to make a decision?

Greg Schweer
Chief, New Chemicals Management Branch
Chemical Control Division
U.S. EPA, Office of Pollution Prevention and Toxics
(202)564-8469

-----Forwarded by Greg Schweer/DC/USEPA/US on 05/02/2010 12:56PM -----

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From: James R Hoover <James.R.Hoover@USA.dupont.com>
Date: 04/30/2010 03:57PM
Subject: Fw: URGENT ISSUE: 18405-1037 mouse study blood collection amendment -

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Any advice would be much appreciated. We fully realize this may be difficult to impossible, but I wanted to make fully sure that what ever we do is totally right.

Again, my apologies.

Very best regards, Jim

Jim Hoover, FPS Global Regulatory Manager

DuPONT DCF/FPS
CRP 702, Room 2116
Wilmington, DE 19880

BBerry: Personal Phone / Ex. 6

----- Forwarded by James R Hoover/AE/DuPont on 04/30/2010 03:40 PM -----

James R Hoover/AE/DuPont 04/30/2010 03:11 PM

To Allison.Rose@epamail.epa.gov

cc Gary W Jepson/AE/DuPont@DuPont, Steven R Frame/AE/DuPont@DuPont, Susan M Munley/AE/DuPont@DuPont, Jane Bradd Andersen/AE/DuPont@DuPont

Sub Fw: URGENT ISSUE: 18405-1037 mouse study blood collection amendment - ject

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Many thx for your advice...best regards, Jim

Jim Hoover, FPS Global Regulatory Manager

DuPONT DCF/FPS
CRP 702, Room 2116
Wilmington, DE 19880

BBerry: Personal Phone / Ex. 6

----- Forwarded by James R Hoover/AE/DuPont on 04/30/2010 02:50 PM -----

Steven R Frame/AE/DuPont

04/30/2010 11:46 AM

To James R Hoover/AE/DuPont@DuPont, Jane Bradd Andersen/AE/DuPont@DuPont

cc Gary W Jepson/AE/DuPont@DuPont, Susan M Munley/AE/DuPont@DuPont

Subject URGENT ISSUE: 18405-1037 mouse study blood collection amendment -

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Randy

----- Forwarded by Steven R Frame/AE/DuPont on 04/30/2010 11:38 AM -----

Susan M Munley/AE/DuPont

04/30/2010 11:37 AM

To Steven R Frame/AE/DuPont@DuPont, Gary W Jepson/AE/DuPont@DuPont

cc

Subject 18405-1037 mouse study blood collection amendment - URGENT ISSUE

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I am writing to seek non-objection to proceed with this beginning this coming Monday morning, May 3.

The first F0 females to reach PND 21 are scheduled to have their litters weaned and be subsequently euthanized this coming Monday morning.

As these procedures will clarify and improve upon the data dictated by the previously approved amendment 4, please let me know if we can proceed with approving this work to begin on Monday.

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Francais Deutsch Italiano Espanol Portugues Japanese Chinese Korean

http://www.DuPont.com/corp/email_disclaimer.html

[attachment "[illegible] Draft Amendment 5 DOD[illegible].doc" deleted by Rose Allison/DC/US/EPA/US]

Rose Allison/DC/USEPA/US
11/16/2009 09:50 PM

To Greg Schweer/DC/USEPA/US@EPA, Scott Sherlock/DC/USEPA/US@EPA,
cc
bcc
Subject Fw: Form/Information for cbi authorization for conference call

History: This message has been replied to.

This is what I got back from the Company. Any reactions? I need to compare it side-by-side with our draft. At first glance, it seems ok to me. There is no CBI in this document, although the Company has asked that since it's a draft document that we limit access so please do not forward. I'll keep a record. They're fine with using the email.

Rose Allison
Senior Specialist
New Chemicals Program
Chemical Control Division (7405M)
US EPA
1200 Pennsylvania Ave. NW
Washington, DC 20460
202/564-8970/FAX 202/564-9490

For Deliveries
EPA East Building
*1201 Constitution Ave NW
Room 4419H
Wash DC 20004

----- Forwarded by Rose Allison/DC/USEPA/US on 11/16/2009 04:43 PM -----

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Limited Permission to Disclose Draft 11.12.09.doc

Arnold & Porter

Joel M. Gross
+1 202.942.5705 Direct
Joel.Gross@arnoldporter.com

March 6, 2018

VIA E-MAIL

Diana Saenz
Mark Garvey
James Miles
USEPA Headquarters
Office of Civil Enforcement
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N.W.
Mail Code 2249A
Washington, DC 20460

Re: Chemours

Dear Diana, Mark, and James,

Thank you for your assistance in organizing the February 8th meeting between Chemours and the multiple EPA regional and headquarters offices, as well as representatives of the States of North Carolina, New Jersey, West Virginia and Ohio, to discuss a range of issues relating to C3 Dimer Acid (GenX) and other PFAS materials.

As we said at the meeting, we welcomed the opportunity to begin a dialogue on how we can work together to meet mutual objectives in a constructive and transparent manner. We were glad to be given time to report on the many steps Chemours has taken and is planning to take in order to enhance its operations and protect public health and the environment. Although, as you had told us would be the case before the meeting, EPA was not able at the meeting either to provide information on its own activities relating to PFAS or provide feedback on our presentation, we hope we will be able to schedule another meeting at which we can have a discussion on these matters. Please let us know when it would be appropriate to schedule that.

We appreciate your compiling the questions you received on our presentation, and we provide the following answers on behalf of Chemours and based on Chemours' current knowledge and understanding:

Relating to Slide 9

1. *Is the C3 dimer acid a byproduct at any facilities outside of NC?*

Chemours' Answer: Chemours has not identified C3 Dimer Acid as a byproduct, and would not expect C3 Dimer Acid to be present as a byproduct, at any of its facilities in the United States other than the Fayetteville Works.

Relating to Slide 25

1. *An explanation of the term "process stream" would be helpful. For example, is waste water generated due to equipment cleaning a process stream, especially in the case of the cleaning of equipment that has been uninstalled?*

Chemours' Answer: "Process streams" as used in Slide 25 was intended to mean any wastewater generated from the operations of manufacturing processes within the facility, other than non-contact cooling water, all as have been identified to North Carolina DEQ on schematics of the facility, which contain confidential business information.

2. *There continue to be occasional exceedances of 140 ppt detected at Outfall 002 particularly after rain events according to this slide. What are other reasons for these exceedances? What is the frequency of exceedances that are less than 140 ppt?*

Chemours' Answer: Chemours continues to evaluate potential sources of the sampling results at levels above 140 parts per trillion. At present, Chemours believes that (i) an upset incident in the Vinyl Ethers South facility during a site-wide facility turnaround on October 6, 2017 caused HFPO Dimer Acid to accumulate on nearby grounds, structures and equipment, and (ii) such residual material has caused increased levels of HFPO Dimer Acid during rain and snow events. The presence of such residual materials is consistent with the results of wipe testing Chemours has done on equipment at the facility. In light of this, Chemours began last week, in coordination with NC DEQ, a project to power wash impacted facilities and equipment to address this concern.

We assume that the second part of your question was intended to ask about results that are more than, not less than, 140 ppt. In either case, Chemours has provided all data from Outfall 002 sampling events to DEQ and EPA and is attaching such a summary of all Outfall 002 sampling results since December 1, 2017 again here.

Relating to Slide 30

1. *Is Chemours planning to implement their long term wastewater abatement solutions (pages 30-35) at every site with C3 Dimer acid and PFAS or just Fayetteville Works?*

Chemours' Answer: As discussed at the February 8th meeting, Chemours is evaluating its wastewater abatement technology at each facility that utilizes PFAS, but the treatment and control technology to be used at each facility will not necessarily be the same. As we also described at the meeting, the respective Chemours facilities have different products, processes, settings, chemistries and regulatory permits and each requires abatement technologies designed to meet the circumstances of that facility. Accordingly, the treatment technologies proposed for Fayetteville Works have been designed specifically for that facility. Chemours is committed to evaluating emissions and emission abatement technologies at other facilities and will work with state regulators, using knowledge gained from other facilities, to modify or change technology as necessary and appropriate.

Relating to Slide 31

1. *"Chemours is confident and will commit that, once installed, the combination of these technologies will maintain C3 Dimer Acid levels in discharges at Outfall 002 at or below a 140 PPT monthly average."*
   - Does this imply that Chemours will not completely eliminate releases to Outfall 002? If so, what are the sources of the releases that would continue?

Chemours' Answer: While Chemours has ceased all discharges of process wastewater to Outfall 002, there continue to be discharges to Outfall 002, which consist of non-contact cooling water, stormwater, domestic water, and process water from tenants Kuraray and DuPont.

Chemours has proposed that its current practice of transporting all process water offsite for disposal would continue until the abatement technology described at our meeting is installed and in operation, and until Chemours has received NC DEQ approval to recommence process water discharges to the Outfall 002 at very low levels of discharge and under stringent numerical limitations. Chemours views the current practice of offsite disposal as an interim solution that is not sustainable in the long term. Chemours believes that its long term plan -- to install substantial abatement technology on all air and water emission sources -- will substantially eliminate or reduce emissions

and will be effective to meet a 140 ppt limit for C3 Dimer Acid at Outfall 002 on a monthly average basis.

Relating to Slide 32

1. *Does "WGS" mean waste gas scrubber?*

   Chemours' Answer: Yes

2. *Multiple categories of sumps are mentioned in this diagram; please confirm that all of the mentioned sumps are located in the IXM area.*

   Chemours' Answer: All mentioned sumps are in the manufacturing part of the plant other than the PPA facility. That area has sometimes been referred to as the Nafion/IXM facility.

3. *What specifically are the "other untreated process stream"?*

   Chemours' Answer: Whether there will be any such streams that would be sent directly to an adsorption unit, and if so which, is subject to further design and testing work, particularly as to the effectiveness of ion exchange / adsorption as to specific streams.

Relating to Slide 37

1. *Is Chemours planning to implement abatement for air emissions (page 37) at every site (page 37) with C3 Dimer acid and PFAS or just Fayetteville Works?*

   Chemours' Answer: See response to the question on slide 30. As it will with respect to wastewater, Chemours plans to address the appropriate components of air emission abatement technology at each facility, doing what is required and appropriate for that facility.

Relating to Slide 40

1. *Please confirm that all vent streams that are currently vented to the Division KOH Wet Scrubber, and not only the Vinyl Ethers North unit process emissions, will be vented to the thermal oxidizer according to the long term plan.*

Chemours' Answer: Yes, that is confirmed. All vent streams that are currently vented to the Division KOH Wet Scrubber would be vented to the thermal oxidizer under the proposed long term plan.

2. *Why is there no mention of Vinyl Ethers South unit process emissions even though according to Slide # 32 this stream will be sent to the thermal oxidizer?*

Chemours' Answer: The focus of slide 32 was on how Chemours is addressing those units and stacks for which it has agreed with NC DEQ to short term (over the next few months) abatement measures and installation of Granulated Activated Carbon systems. Those GAC units will be installed at the PPA and Vinyl Ethers North plants by May of this year. Under the long term plan, the process emissions to be controlled by the thermal oxidizer would also include those from the Vinyl Ethers South unit.

Relating to Slide 46

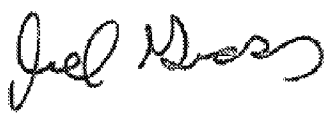
1. *When discussing the spills and leaks at Fayetteville Works, Chemours mentioned 12-13 spills or leaks occurring since October 6, 2017. We only have record of 7: 10/6/17, 11/14/17, 12/9/17, 12/31/17, 1/14/18, 1/25/18, and 2/1/18.*

Chemours' Answer: If a reference to 12-13 spill events was mentioned by Chemours at the meeting, that was an error. Our records include the same seven events you reference.

****

If there are any follow up questions, or additional questions related to our presentation or other areas of concern, from EPA or any of the States, please let me know. Chemours very much appreciates your attention to these matters.

Sincerely,



Joel M. Gross

Attachment. Summary of all Outfall 002 sampling results since December 1, 2017.

Date Sample Collected (3.5-day Composites)	Results (ppt)
8-Feb-18	340
5-Feb-18	610
1-Feb-18	410
29-Jan-18	950
25-Jan-18	1,300
22-Jan-18	1,500
18-Jan-18	360
16-Jan-18	370
11-Jan-18	320
8-Jan-18	100
5-Jan-18	130
2-Jan-18	95
28-Dec-17	190
22-Dec-17	470
18-Dec-17	79
14-Dec-17	120
11-Dec-17	2300
7-Dec-17	240
4-Dec-17	120

To: LaPosta, Dore[LaPosta.Dore@epa.gov]; Anderson, Kate[Anderson.Kate@epa.gov]; Gorman, John[Gorman.John@epa.gov]; Evangelista, Pat[Evangelista.Pat@epa.gov]
From: Schulz, Susan
Sent: Mon 12/11/2017 12:25:10 AM
Subject: FW: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 2pm & Briefing Paper attached
OCE Weekly AA-DAA 12112017.pdf

Unfortunately, OCE still isn't sure if the briefing starts at 1 pm or 2 pm! The attachment has the agenda with call-in info and the final GenX briefing paper. Please see the mailing list below for participants. Does anyone have a preference as to where I sit for this call? Happy to go to NYC (can also pick-up my iPhone) or to take the call from Edison. Let me know. Thanks.

From: Garvey, Mark
Sent: Saturday, December 09, 2017 12:15 AM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Cc: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Rog, Morgan <Rog.Morgan@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Nowell, Valerie <Nowell.Valerie@epa.gov>; Hansen, Susan <Hansen.Susan@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; George, Verne <George.Verne@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>
Subject: RE: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 2pm & Briefing Paper attached

There are conflicting times for the Monday meeting. The agenda from the front office says 1pm and the invite from the front office says 2.
My management believes it is **scheduled for 2pm on Monday** and the agenda has the wrong time. The attachment also has the final GenX briefing paper below the item below the agenda.

Sorry for the confusion. We'll try to clarify things on Monday.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Friday, December 08, 2017 3:15 PM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Cc: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Rog, Morgan <Rog.Morgan@epa.gov>; Sullivan,

Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Nowell, Valerie <Nowell.Valerie@epa.gov>; Hansen, Susan <Hansen.Susan@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Strynar, Mark <strynar.mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; George, Verne <George.Verne@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>
Subject: RE: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 1pm

Attached is the agenda for the **Monday ** 1pm Susan Bodine Briefing**

It is part of the weekly OCE meeting with the AA.

OCE Weekly w/AA/DAA/PDAA, call in number **Personal Phone / Ex. 6**

Region 4 will be joined by Regions 2, 3 and 5 on the call.

I'll send the final briefing paper when it becomes available.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.govcl

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: LaPosta, Dore[LaPosta.Dore@epa.gov]; Anderson, Kate[Anderson.Kate@epa.gov]; Gorman, John[Gorman.John@epa.gov]; Evangelista, Pat[Evangelista.Pat@epa.gov]
Cc: Castro, Carmen[Castro.Carmen@epa.gov]
From: Schulz, Susan
Sent: Fri 12/8/2017 8:18:09 PM
Subject: FW: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 1pm
OCE Weekly AA-DAA 12112017.pdf

The mtg time has changed to 1 pm on Monday.

From: Garvey, Mark
Sent: Friday, December 08, 2017 3:15 PM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Cc: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Rog, Morgan <Rog.Morgan@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Nowell, Valerie <Nowell.Valerie@epa.gov>; Hansen, Susan <Hansen.Susan@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; George, Verne <George.Verne@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>
Subject: RE: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 1pm

Attached is the agenda for the **Monday ** 1pm Susan Bodine Briefing**

It is part of the weekly OCE meeting with the AA.

OCE Weekly w/AA/DAA/PDAA, call in number **Personal Phone / Ex. 6**

Region 4 will be joined by Regions 2, 3 and 5 on the call.

I'll send the final briefing paper when it becomes available.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.govcl

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

Message

From: Evangelista, Pat [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1EB5BD80722148C38DA8A524F8A5DB8A-EVANGELISTA, PAT]
Sent: 4/20/2018 7:00:42 PM
To: Chester, Amy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8653387047874b74a8361e00d5ecc274-Chester, Amy]
Subject: FW: Chemours Meeting Feb. 8 -presentation
Attachments: NC_SAB_Shea_01262018.pdf; Feb. 8th PP to EPA.PDF

From: Gorman, John
Sent: Thursday, February 08, 2018 1:46 PM
To: Maddaloni, Mark <Maddaloni.Mark@epa.gov>; Everett, Adolph <Everett.Adolph@epa.gov>; Evangelista, Pat <Evangelista.Pat@epa.gov>
Subject: FW: Chemours Meeting Feb. 8 -presentation

From: Garvey, Mark
Sent: Thursday, February 8, 2018 12:56 PM
To: Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Star, David <star.david@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Martinez, Jeffrey <Martinez.Jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Anderson, Kate <Anderson.Kate@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>; Swan, Russell <Swan.Russell@epa.gov>; DeDora, Caroline <DeDora.Caroline@epa.gov>; Unger, LouAnn <unger.louann@epa.gov>; Bair, Rita <bair.rita@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Field, Stephen <Field.Stephen@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>; Ireland, Laurie <Ireland.Laurie@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Reinhart, Roger <Reinhart.Roger@epa.gov>; Valberg, Amelia <valberg.amelia@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>; daw, harry <daw.harry@epa.gov>; Gorman, John <Gorman.John@epa.gov>; Klevs, Mardi <klevs.mardi@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Poy, Thomas <poy.thomas@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; rogers, rick <rogers.rick@epa.gov>; Wilson, Jennifer <wilson.jenniferA@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Day, Christopher <Day.Christopher@epa.gov>; Coe, Mary <Coe.Mary@epa.gov>; Ramalho, Louis <Ramalho.Louis@epa.gov>; Lewis, Jennifer <Lewis.Jennifer@epa.gov>; Baptista, Chrisna <Baptista.Chrisna@epa.gov>; Niess, Claudia <niess.claudia@epa.gov>; Spann, Tony <Spann.Tony@epa.gov>; Timsina, Gopal <Timsina.Gopal@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Mancusi-Ungaro, Philip <Mancusi-Ungaro.Philip@epa.gov>; Bush, William <Bush.William@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Devkota, Om <devkota.om@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>
Cc: Valberg, Amelia <valberg.amelia@epa.gov>; Twickler, Donna <twickler.donna@epa.gov>; Star, David <star.david@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Gillespie, Andrew

<Gillespie.Andrew@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; 'Migliarino, Maurice' <Maurice.Migliarino@dep.nj.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; 'Maybury, Steve' <Steve.Maybury@dep.nj.gov>; rogers, rick <rogers.rick@epa.gov>; Bennett, James <bennett.james@epa.gov>; 'Lane, Bill F' <Bill.Lane@ncdenr.gov>; 'Holman, Sheila' <sheila.holman@ncdenr.gov>; Zobrist, Marcus <Zobrist.Marcus@epa.gov>; Burneson, Eric <Burneson.Eric@epa.gov>; Thompkins, Anita <Thompkins.Anita@epa.gov>; Born, Tom <Born.Tom@epa.gov>; 'michael.scott@ncdenr.gov' <michael.scott@ncdenr.gov>; michael.abraczinskas@ncdenr.gov; Michael Pjetraj <michael.pjetraj@ncdenr.gov>; 'Fbenzoni@ncdoj.gov' <Fbenzoni@ncdoj.gov>; 'Aspiller@ncdoj.gov' <Aspiller@ncdoj.gov>; 'Ken.Kloo@dep.nj.govNJ' <Ken.Kloo@dep.nj.govNJ>; 'Wayne.Howitz@dep.nj.gov' <Wayne.Howitz@dep.nj.gov>
Subject: RE: Chemours Meeting Feb. 8 -presentation

Chemours Presentation for the meeting in 30 minutes

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Thursday, February 08, 2018 12:30 PM
To: Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Star, David <star.david@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Martinez, Jeffrey <Martinez.Jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Anderson, Kate <Anderson.Kate@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>; Swan, Russell <Swan.Russell@epa.gov>; DeDora, Caroline <Dedora.Caroline@epa.gov>; Unger, LouAnn <unger.louann@epa.gov>; Bair, Rita <bair.rita@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Field, Stephen <Field.Stephen@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>; Ireland, Laurie <Ireland.Laurie@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Reinhart, Roger <Reinhart.Roger@epa.gov>; Valberg, Amelia <valberg.amelia@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>; daw, harry <daw.harry@epa.gov>; Gorman, John <Gorman.John@epa.gov>; Klevs, Mardi <klevs.mardi@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Poy, Thomas <poy.thomas@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; rogers, rick <rogers.rick@epa.gov>; Wilson, Jennifer <wilson.jenniferA@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Day, Christopher <Day.Christopher@epa.gov>; Coe, Mary <Coe.Mary@epa.gov>; Ramalho, Louis <Ramalho.Louis@epa.gov>; Lewis, Jennifer <Lewis.Jennifer@epa.gov>; Baptista, Chrisna <Baptista.Chrisna@epa.gov>; Niess, Claudia <niess.claudia@epa.gov>; Spann, Tony <Spann.Tony@epa.gov>; Timsina, Gopal <Timsina.Gopal@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Mancusi-Ungaro, Philip <Mancusi-Ungaro.Philip@epa.gov>; Bush, William <Bush.William@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Devkota, Om <devkota.om@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Vendinello,

Lynn <Vendinello.Lynn@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>
Cc: Valberg, Amelia <valberg.amelia@epa.gov>; Twickler, Donna <twickler.donna@epa.gov>; Star, David <star.david@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Gillespie, Andrew <Gillespie.Andrew@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; 'Migliarino, Maurice' <Maurice.Migliarino@dep.nj.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; 'Maybury, Steve' <Steve.Maybury@dep.nj.gov>; rogers, rick <rogers.rick@epa.gov>; Bennett, James <bennett.james@epa.gov>; 'Lane, Bill F' <Bill.Lane@ncdenr.gov>; 'Holman, Sheila' <sheila.holman@ncdenr.gov>; Zobrist, Marcus <Zobrist.Marcus@epa.gov>; Burneson, Eric <Burneson.Eric@epa.gov>; Thompkins, Anita <Thompkins.Anita@epa.gov>; Born, Tom <Born.Tom@epa.gov>; 'michael.scott@ncdenr.gov' <michael.scott@ncdenr.gov>; michael.abraczinskas@ncdenr.gov; 'Pjetraj, Michael' <michael.pjetraj@ncdenr.gov>; 'Fbenzoni@ncdoj.gov' <Fbenzoni@ncdoj.gov>; 'Aspiller@ncdoj.gov' <Aspiller@ncdoj.gov>; 'Ken.Kloo@dep.nj.govNJ' <Ken.Kloo@dep.nj.govNJ>; 'Wayne.Howitz@dep.nj.gov' <Wayne.Howitz@dep.nj.gov>
Subject: RE: Chemours Meeting Feb. 8 -Adding Chemours List PLUS Latest Attendee List to 12:15

I missed a couple names from Regions 4 and one in Region 3.

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

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From: Garvey, Mark
Sent: Thursday, February 08, 2018 11:50 AM
To: Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Star, David <star.david@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Martinez, Jeffrey <Martinez.Jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Anderson, Kate <Anderson.Kate@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>; Swan, Russell <Swan.Russell@epa.gov>; DeDora, Caroline <Dedora.Caroline@epa.gov>; Unger, LouAnn <unger.louann@epa.gov>; Bair, Rita <bair.rita@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Field, Stephen <Field.Stephen@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>; Ireland, Laurie <Ireland.Laurie@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Reinhart, Roger <Reinhart.Roger@epa.gov>; Valberg, Amelia <valberg.amelia@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>; daw, harry <daw.harry@epa.gov>; Gorman, John <Gorman.John@epa.gov>; Klevs, Mardi <klevs.mardi@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Poy, Thomas <poy.thomas@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; rogers, rick <rogers.rick@epa.gov>; Wilson, Jennifer <wilson.jenniferA@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Day, Christopher <Day.Christopher@epa.gov>; Coe, Mary <Coe.Mary@epa.gov>; Ramalho, Louis <Ramalho.Louis@epa.gov>; Lewis, Jennifer <Lewis.Jennifer@epa.gov>; Baptista, Chrisna <Baptista.Chrisna@epa.gov>; Niess, Claudia

<niess.claudia@epa.gov>; Spann, Tony <Spann.Tony@epa.gov>; Timsina, Gopal <Timsina.Gopal@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Mancusi-Ungaro, Philip <Mancusi-Ungaro.Philip@epa.gov>; Bush, William <Bush.William@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Devkota, Om <devkota.om@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>
Cc: Valberg, Amelia <valberg.amelia@epa.gov>; Twickler, Donna <twickler.donna@epa.gov>; Star, David <star.david@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Gillespie, Andrew <Gillespie.Andrew@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; 'Migliarino, Maurice' <Maurice.Migliarino@dep.nj.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; 'Maybury, Steve' <Steve.Maybury@dep.nj.gov>; rogers, rick <rogers.rick@epa.gov>; Bennett, James <bennett.james@epa.gov>; 'Lane, Bill F' <Bill.Lane@ncdenr.gov>; 'Holman, Sheila' <sheila.holman@ncdenr.gov>; Zobrist, Marcus <Zobrist.Marcus@epa.gov>; Burneson, Eric <Burneson.Eric@epa.gov>; Thompkins, Anita <Thompkins.Anita@epa.gov>; Born, Tom <Born.Tom@epa.gov>; 'michael.scott@ncdenr.gov' <michael.scott@ncdenr.gov>; michael.abraczinskas@ncdenr.gov; 'Pjetraj, Michael' <michael.pjetraj@ncdenr.gov>; 'Fbenzoni@ncdoj.gov' <Fbenzoni@ncdoj.gov>; 'Aspiller@ncdoj.gov' <Aspiller@ncdoj.gov>; 'Ken.Kloo@dep.nj.govNJ' <Ken.Kloo@dep.nj.govNJ>; 'Wayne.Howitz@dep.nj.gov' <Wayne.Howitz@dep.nj.gov>
Subject: RE: Chemours Meeting Feb. 8 -Adding Chemours List PLUS Latest Attendee List

Combines Chemours and EPA Attendees

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From: Garvey, Mark
Sent: Thursday, February 08, 2018 11:46 AM
To: Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Star, David <star.david@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Martinez, Jeffrey <Martinez.Jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Anderson, Kate <Anderson.Kate@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>; Swan, Russell <Swan.Russell@epa.gov>; DeDora, Caroline <Dedora.Caroline@epa.gov>; Unger, LouAnn <unger.louann@epa.gov>; Bair, Rita <bair.rita@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Field, Stephen <Field.Stephen@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>; Ireland, Laurie <Ireland.Laurie@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Reinhart, Roger <Reinhart.Roger@epa.gov>; Valberg, Amelia <valberg.amelia@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>; daw, harry <daw.harry@epa.gov>; Gorman, John <Gorman.John@epa.gov>; Klevs, Mardi <klevs.mardi@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Poy, Thomas <poy.thomas@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; rogers, rick <rogers.rick@epa.gov>; Wilson, Jennifer

<wilson.jenniferA@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Day, Christopher <Day.Christopher@epa.gov>; Coe, Mary <Coe.Mary@epa.gov>; Ramalho, Louis <Ramalho.Louis@epa.gov>; Lewis, Jennifer <Lewis.Jennifer@epa.gov>; Baptista, Chrisna <Baptista.Chrisna@epa.gov>; Niess, Claudia <niess.claudia@epa.gov>; Spann, Tony <Spann.Tony@epa.gov>; Timsina, Gopal <Timsina.Gopal@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Mancusi-Ungaro, Philip <Mancusi-Ungaro.Philip@epa.gov>; Bush, William <Bush.William@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Devkota, Om <devkota.om@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>
Cc: Valberg, Amelia <valberg.amelia@epa.gov>; Twickler, Donna <twickler.donna@epa.gov>; Star, David <star.david@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Gillespie, Andrew <Gillespie.Andrew@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; 'Migliarino, Maurice' <Maurice.Migliarino@dep.nj.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; 'Maybury, Steve' <Steve.Maybury@dep.nj.gov>; rogers, rick <rogers.rick@epa.gov>; Bennett, James <bennett.james@epa.gov>; 'Lane, Bill F' <Bill.Lane@ncdenr.gov>; 'Holman, Sheila' <sheila.holman@ncdenr.gov>; Zobrist, Marcus <Zobrist.Marcus@epa.gov>; Burneson, Eric <Burneson.Eric@epa.gov>; Thompkins, Anita <Thompkins.Anita@epa.gov>; Born, Tom <Born.Tom@epa.gov>; 'michael.scott@ncdenr.gov' <michael.scott@ncdenr.gov>; michael.abraczinskas@ncdenr.gov; 'Pjetraj, Michael' <michael.pjetraj@ncdenr.gov>; 'Fbenzoni@ncdoj.gov' <Fbenzoni@ncdoj.gov>; 'Aspiller@ncdoj.gov' <Aspiller@ncdoj.gov>; 'Ken.Kloo@dep.nj.govNJ' <Ken.Kloo@dep.nj.govNJ>; 'Wayne.Howitz@dep.nj.gov' <Wayne.Howitz@dep.nj.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: RE: Chemours Meeting Feb. 8 - Latest Attendee List

Updated attendees list to 11:30 today

Mark Garvey
EPA Headquarters
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Attorney
202-564-4168
garvey.mark@epa.gov

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To: Miller, Gregory[Miller.Gregory@epa.gov]; Lowit, Anna[Lowit.Anna@epa.gov]; Laessig, Susan[Laessig.Susan@epa.gov]; Hamernik, Karen[Hamernik.Karen@epa.gov]; Raffaele, Kathleen[raffaele.kathleen@epa.gov]; Murphy, Deirdre[Murphy.Deirdre@epa.gov]; Vasu, Amy[Vasu.Amy@epa.gov]; Hoyer, Marion[hoyer.marion@epa.gov]; Axelrad, Daniel[Axelrad.Daniel@epa.gov]; Dzubow, Rebecca[Dzubow.Rebecca@epa.gov]; Euling, Susan[Euling.Susan@epa.gov]; Flowers, Lynn[Flowers.Lynn@epa.gov]; Doa, Maria[Doa.Maria@epa.gov]; Cassidy, Meghan[Cassidy.Meghan@epa.gov]; Olsen, Marian[Olsen.Marian@epa.gov]; Gehlhaus, Martin[Gehlhaus.Martin@epa.gov]; Pollard, Solomon[Pollard.Solomon@epa.gov]; Adams, Glenn[Adams.Glenn@epa.gov]; Mangino, Mario[mangino.mario@epa.gov]; Milburn, Anna[Milburn.Anna@epa.gov]; Schumacher, Kelly[Schumacher.Kelly@epa.gov]; Benson, Bob[Benson.Bob@epa.gov]; Hiatt, Gerald (Separated 6/25/18)[Hiatt.Gerald@epa.gov]; Kissinger, Lon[Kissinger.Lon@epa.gov]; Jacobs, Brittany[jacobs.brittany@epa.gov]
Cc: Maddaloni, Mark[Maddaloni.Mark@epa.gov]; rogers, rick[rogers.rick@epa.gov]; Allenbach, Becky[Allenbach.Becky@epa.gov]; Harris, Kimberly[harris.kimberly@epa.gov]; Morton, Michael[Morton.Michael@epa.gov]; Shields, Amy[Shields.Amy@epa.gov]; Bahrman, Sarah[Bahrman.Sarah@epa.gov]; Small, Matthew[Small.Matthew@epa.gov]; Anderson-Carnahan, Linda[Anderson-Carnahan.Linda@epa.gov]; Bahadori, Tina[Bahadori.Tina@epa.gov]; Jones, Samantha[Jones.Samantha@epa.gov]; Weber, Robert[Weber.Robert@epa.gov]; Kidwell, JessicaL[Kidwell.JessicaL@epa.gov]; Bennett, James[bennett.james@epa.gov]; Reinhart, Roger[Reinhart.Roger@epa.gov]; Rowsey, Kevin[rowsey.kevin@epa.gov]; Konfirst, Matthew[konfirst.matthew@epa.gov]; Caporale, Cynthia[Caporale.Cynthia@epa.gov]; Bachman, Brenda[bachman.brenda@epa.gov]; Gettle, Jeaneanne[Gettle.Jeaneanne@epa.gov]; Walker, Mary[walker.mary@epa.gov]; Jones, Aaryn[Jones.Aaryn@epa.gov]; Hall, Renea[Hall.Renea@epa.gov]; Shell, Karrie-Jo[Shell.Karrie-Jo@epa.gov]; Davis, Molly[Davis.Molly@epa.gov]; Mitchell, Ken[Mitchell.Ken@epa.gov]; Kemker, Carol[Kemker.Carol@epa.gov]; Jones-Johnson, Shea[Jones-Johnson.Shea@epa.gov]; Behl, Betsy[Behl.Betsy@epa.gov]
From: Strong, Jamie
Sent: Mon 7/2/2018 12:03:38 PM
Subject: RE: Discussion of EPA intra-agency comments on GenX Chemicals Toxicity Value Assessment CALL-IN: Personal Phone / Ex. 6 Personal Phone / Ex. 6
GenX_External Peer Review_charge questions_06 21 18.pdf
DRAFT EXT PEER REVIEW Human Health Tox Values for GenX Chemicals_06-21-18_final.pdf

GenX chemicals and PFBS assessments reviewers,

Attached are the GenX chemicals draft assessment and charge questions for external peer review. Thank you all for your thoughtful feedback and help in meeting the timeframe on this and the PFBS assessment.

Best,
Jamie

-----Original Appointment-----
From: Behl, Betsy
Sent: Thursday, June 21, 2018 9:00 AM
To: Behl, Betsy; Miller, Gregory; Lowit, Anna; Laessig, Susan; Hamernik, Karen; Raffaele, Kathleen; Murphy, Deirdre; Vasu, Amy; Hoyer, Marion; Axelrad, Daniel; Dzubow, Rebecca; Euling, Susan; Flowers, Lynn; Doa, Maria; Cassidy, Meghan; Olsen, Marian; Gehlhaus, Martin; Pollard, Solomon; Adams, Glenn; Mangino, Mario; Milburn, Anna; Schumacher, Kelly; Benson, Bob; Hiatt, Gerald; Kissinger, Lon; Strong, Jamie; Jacobs, Brittany
Cc: Maddaloni, Mark; rogers, rick; Allenbach, Becky; Harris, Kimberly; Morton, Michael; Shields, Amy; Bahrman, Sarah; Small, Matthew; Anderson-Carnahan, Linda; Bahadori, Tina; Jones, Samantha; Weber, Robert; Kidwell, JessicaL; Bennett, James; Reinhart, Roger; Rowsey, Kevin; Konfirst, Matthew; Caporale, Cynthia; Bachman, Brenda; Gettle, Jeaneanne; Walker, Mary; Jones, Aaryn; Hall, Renea; Shell, Karrie-Jo; Davis, Molly; Mitchell, Ken; Kemker, Carol; Jones-Johnson, Shea
Subject: Discussion of EPA intra-agency comments on GenX Chemicals Toxicity Value Assessment CALL-IN: Personal Phone / Ex. 6 Personal Phone / Ex. 6
When: Thursday, June 28, 2018 2:00 PM-3:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: DCRoomWest5231M/DC-CCW-OST

Join by Phone
Toll number: Personal Phone / Ex. 6

Thank you all for providing excellent comments and feedback on the GenX chemicals toxicity assessment. We appreciate your thoughtful comments and carefully considered all your comments as well as interagency comments in our revisions to the document. The purpose of this call is to discuss the range/types of comments received and how we addressed them. We plan to send the GenX chemicals assessment out for peer review on June 22nd, in order to meet our aggressive schedule. We appreciate your understanding and look forward to our discussion.

This invite is being sent to the Agency Review Contacts listed below. Please feel free to include others we may have overlooked. Thank you!

Agency Review Contacts

Office of Water Greg Miller

Office of Chemical Safety and Pollution Prevention

- **Office of Pesticide Programs** Anna Lowit
- **Office of Pollution Prevention and Toxics** Susan Laessig
- **Office of Science Coordination and Policy** Karen Hamernik

Office of Land and Emergency Management Kathleen Raffaele

Office of Air and Radiation

- **Office of Air Quality Protection & Standards** Deirdre Murphy and Amy Vasu
- **Office of Transportation & Air Quality** Marion Hoyer

Office of Policy Dan Axelrad

Office of Children's Health Protection Rebecca Dzubow and Sue Euling

Office of Research and Development Lynn Flowers

Region 1 Meghan Cassidy

Region 2 Marian Olsen

Region 3 Martin Gehlhaus

Region 4 Solomon Pollard and Glenn Adams

Region 5 Mario Mangino

Region 6 Anna Milburn

Region 7 Kelly Schumacher

Region 8 Bob Benson

Region 9 Gerald Hiatt

Region 10 Lon Kissinger

Table of PFAS Regional Coordinators

Region 1	Meghan Cassidy	Cassidy.Meghan@epa.gov
Region 2	Mark Maddaloni	Maddaloni.Mark@epa.gov
Region 3	Rick Rogers	rogers.rick@epa.gov
Region 4	Becky Allenbach	Allenbach.Becky@epa.gov
Region 5	Kim Harris	harris.kimberly@epa.gov
Region 6	Michael Morton	Morton.michael@Epa.gov
Region 7	Amy Shields	Shields.Amy@epa.gov
Region 8	Sarah Bahrman	Bahrman.Sarah@epa.gov
Region 9	Matthew Small	Small.Matthew@epa.gov
Region 10	Linda Anderson-Carnahan	Anderson-Carnahan.Linda@epa.gov

Organizer: Miles, James[miles.james@epa.gov]

From: Miles, James

Location: Personal Phone / Ex. 6

Importance: Normal

Subject: FW: Chemours - Enforcement Coordination Call

Start Time: Tue 8/15/2017 4:30:00 PM

End Time: Tue 8/15/2017 5:00:00 PM

Required Attendees: Allenbach, Becky; Bookman, Robert; Toney, Anthony; Doa, Maria; Pratt, Stacie; daw, harry; Gorman, John; Klevs, Mardi; Star, David; Garvey, Mark; Tucker, Marlene; Ellis, Tony; Kemker, Carol; Sullivan, Greg; Saenz, Diana; Martinez, Jeffrey; King, Carol; Denton, Loren; Paul Buellesbach; Dan-Tam Nguyen; Daryl Hudson; Schulz, Susan; DeDora, Caroline; Davis, Lauren O.; Fite, Mark; George, Verne; Bates, Keith; Mitchell, Ken; Anderson, Kate; Bean, Mark; Henry, Tala; Allison, Rose; Swan, Russell

Optional Attendees: Poy, Thomas; Speir, Jeffrey; Collins, Charlie; Aubee, Catherine; rogers, rick; Wilson, Jennifer; Harris, Kimberly; Unger, LouAnn; Bair, Rita; Shoven, Heather; Clark, Jacqueline; Duchovnay, Andrew; Field, Stephen; Day, Christopher; Ramalho, Louis

Calendar Exception: Untitled

-----Original Appointment-----
From: Miles, James
Sent: Thursday, August 03, 2017 4:43 PM
To: Miles, James; Bookman, Robert; Toney, Anthony; Doa, Maria; Pratt, Stacie; daw, harry; Gorman, John; Klevs, Mardi; Star, David; Garvey, Mark; Tucker, Marlene; Ellis, Tony; Kemker, Carol; Sullivan, Greg; Saenz, Diana; Martinez, Jeffrey; King, Carol; Denton, Loren; Paul Buellesbach; Dan-Tam Nguyen; Daryl Hudson; Schulz, Susan; DeDora, Caroline; Davis, Lauren O.; Fite, Mark; George, Verne; Bates, Keith; Mitchell, Ken; Anderson, Kate; Bean, Mark; Henry, Tala; Allison, Rose; Swan, Russell
Cc: Poy, Thomas; Speir, Jeffrey; Collins, Charlie; Aubee, Catherine; rogers, rick; Wilson, Jennifer; Harris, Kimberly; Unger, LouAnn; Bair, Rita; Shoven, Heather; Clark, Jacqueline; Duchovnay, Andrew; Field, Stephen; Day, Christopher; Ramalho, Louis
Subject: Chemours - Enforcement Coordination Call
When: Occurs every 2 week(s) on Tuesday effective 8/15/2017 until 9/26/2017 from 12:30 PM to 1:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Personal Phone / Ex. 6

Setting up a reoccurring bi-weekly call through Sept. for this matter, per 7/31/17 discussion

Organizer: Miles, James[miles.james@epa.gov]

Location: Personal Phone / Ex. 6

Subject: Chemours - Enforcement Coordination Call

Start Time: Wed 9/20/2017 5:30:00 PM

End Time: Wed 9/20/2017 6:00:00 PM

Required Attendees: Daryl Hudson; Dan-Tam Nguyen; Paul BuellesbachAubee, Catherine; Dan-Tam Nguyen; Gorman, John; Paul Buellesbach; Daryl Hudson; Toney, Anthony; Ellis, Tony; Fite, Mark; daw, harry; Mitchell, Ken; Pratt, Stacie; Schulz, Susan; Martinez, Jeffrey; Anderson, Kate; DeDora, Caroline; King, Carol; Allison, Rose; Bookman, Robert; Doa, Maria; Bean, Mark; Sullivan, Greg; Swan, Russell; Bates, Keith; Henry, Tala; Star, David; Kemker, Carol; Saenz, Diana; Bahk, Benjamin; Davis, Lauren O.; Tucker, Marlene; Freed, Elisabeth; George, Verne; Klevs, Mardi; Denton, Loren; Gordon, Scott; Pollins, Mark; Garvey, Mark; Theis, Joseph

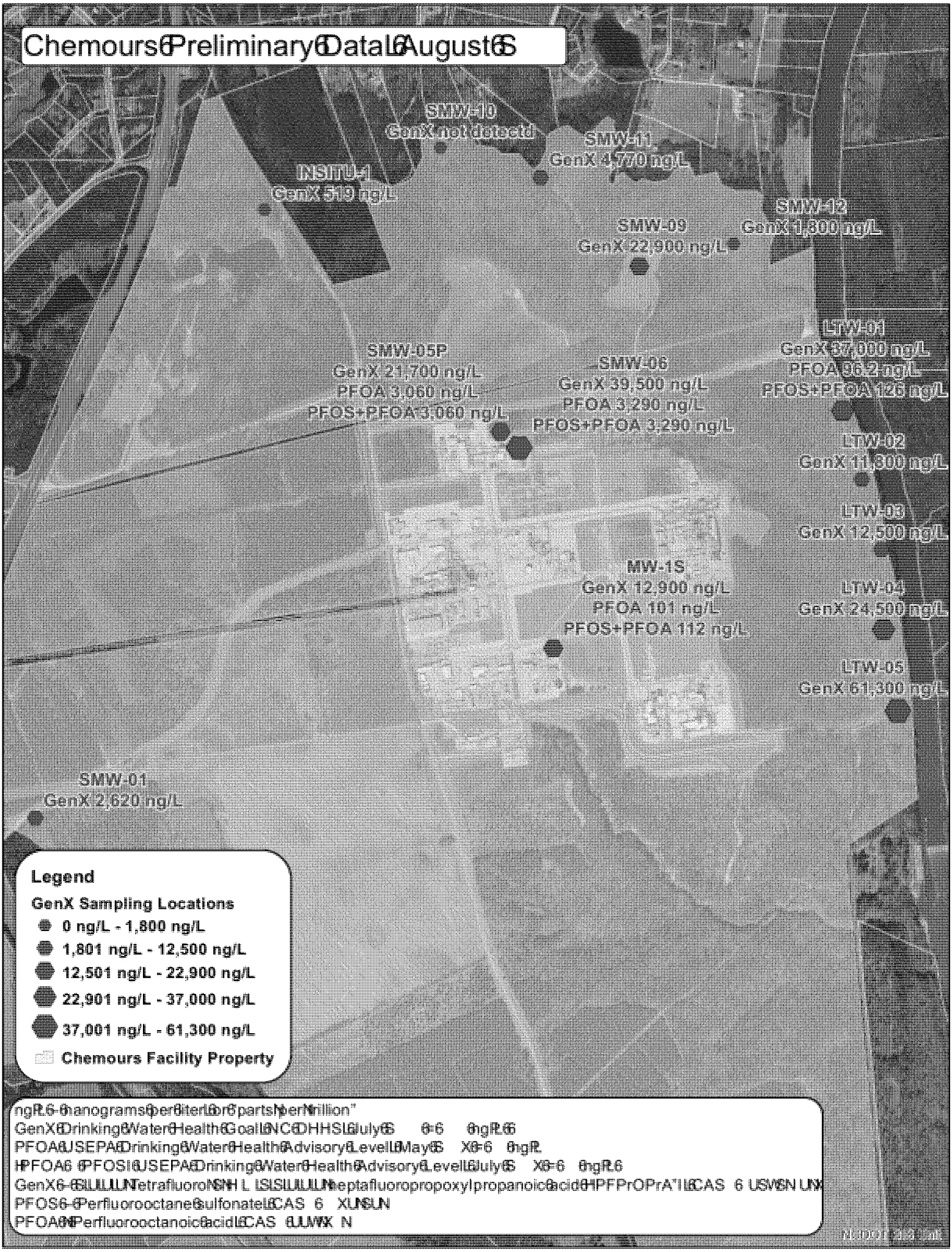
Optional Attendees: Allenbach, Becky; Ramalho, Louis; Day, Christopher; Clark, Jacqueline; Wilson, Jennifer; Niess, Claudia; Lewis, Jennifer; rogers, rick; Mancusi-Ungaro, Philip; Bair, Rita; Janovitz, Sara; Hall, Renea; Bush, William; Coe, Mary; Timsina, Gopal; Speir, Jeffrey; Schwartz, Paul; Shell, Karrie-Jo; Unger, LouAnn; Shoven, Heather; Harris, Kimberly; Field, Stephen; Ireland, Laurie; Spann, Tony; Duchovnay, Andrew; Baptista, Chrisna; Moyer, Adam; Collins, Charlie; Davis, Molly; Poy, Thomas

Updates 9.20.2017.00.docx

Today's Agenda for Gen-X Update Call

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process/ Ex. 5

James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A
1201 Constitution Ave., NW
Washington, DC 20004
202.564.5161
miles.james@epa.gov<mailto:sander.matthew@epa.gov>


Chemours Preliminary Data August
SMW-10
GenX not detectd
SMW-11
GenX 4,770 ng/L
INSITU-1
GenX 519 ng/L
SMW-12
GenX 1,800 ng/L
SMW-09
GenX 22,900 ng/L
LTW-01
GenX 37,000 ng/L
PFOA 96.2 ng/L
PFOS+PFOA 126 ng/L
SMW-05P
GenX 21,700 ng/L
PFOA 3,060 ng/L
PFOS+PFOA 3,060 ng/L
SMW-06
GenX 39,500 ng/L
PFOA 3,290 ng/L
PFOS+PFOA 3,290 ng/L
LTW-02
GenX 11,800 ng/L
LTW-03
GenX 12,500 ng/L
MW-1S
GenX 12,900 ng/L
PFOA 101 ng/L
PFOS+PFOA 112 ng/L
LTW-04
GenX 24,500 ng/L
LTW-05
GenX 61,300 ng/L
SMW-01
GenX 2,620 ng/L
Legend
GenX Sampling Locations
0 ng/L - 1,800 ng/L
1,801 ng/L - 12,500 ng/L
12,501 ng/L - 22,900 ng/L
22,901 ng/L - 37,000 ng/L
37,001 ng/L - 61,300 ng/L
Chemours Facility Property
ng/L - nanograms per liter or "parts per trillion"
GenX Drinking Water Health Goal NC DHHS July 6 6 6 ng/L
PFOA USEPA Drinking Water Health Advisory Level May 6 X 6 6 ng/L
PFOA 6 PFOS USEPA Drinking Water Health Advisory Level July 6 X 6 6 ng/L
GenX 6 Tetrafluoro Heptafluoropropoxy propanoic acid "PFPrOPrA" CAS 6 N
PFOS 6 Perfluorooctane sulfonate CAS 6 N
PFOA Perfluorooctanoic acid CAS N

Environmental Quality

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

September 6, 2017

VIA ELECTRONIC MAIL AND OVERNIGHT DELIVERY

Mr. Ellis McGaughy
Plant Manager
The Chemours Company FC, LLC
Chemours Company-Fayetteville Works
22828 NC Highway 87W
Fayetteville, NC 28306

Subject: NOTICE OF VIOLATION AND NOTICE OF INTENT TO ENFORCE
15A NCAC 02L Classifications and Water Quality Standards
Applicable to the Groundwaters of North Carolina
Chemours Company-Fayetteville Works
Bladen County

Dear Mr. McGaughy:

Chapter 143 of the North Carolina General Statutes authorizes and directs the Environmental Management Commission of the Department of Environmental Quality to protect and preserve the water and air resources of the State. The Division of Waste Management (DWM) and the Division of Water Resources (DWR) have the delegated authority to enforce adopted pollution control rules. This Notice of Violation (Notice) to advise you of the legal requirements under North Carolina law, and is being issued for violations of Title 15A of the North Carolina Administrative Code (NCAC) Subchapter 02L .0202 Groundwater Quality Standards.

This Notice is for constituents discovered by the DWM and DWR from an August 2017 groundwater sampling event that exceed the standards for CLASS GA waters, established in 15A NCAC 2L .0202 in monitoring wells located at the referenced facility. Because there is no standard for the reported constituent Gen X (CAS#13252-13-6), Chemours is considered to be in violation of 15A NCAC 02L .0202 at the subject facility. Please note that pursuant to 15A NCAC 2L .0202(c), "...substances which are not naturally occurring and for which no standard is specified shall not be permitted in concentrations at or above the practical quantitation limit in Class GA or Class GSA groundwaters."

ED_002003F_00001077-00001

As a result of the violation, our office is considering a recommendation for the assessment of a civil penalty. Further Chemours must meet the requirements of 15A NCAC 02L .0106. If you wish to present an explanation for the violations, or if you believe there are other factors which should be considered, please send such information in writing within fifteen (15) days following receipt of this letter. Your explanation will be reviewed, and, if an enforcement action is still deemed appropriate, your explanation will be considered.

Penalties may be imposed under NCGS 143-215.6A(a)(1) of not more than $25,000 per violation of any classification, standard, limitation or management practice established pursuant to G.S. 143-214.1.

We appreciate your attention and prompt response in this matter. If you have any questions, please feel free to contact Michael E. Scott, at (919) 707-8200 or Jay Zimmerman at (919) 707-9027.

Sincerely,

Michael E. Scott
Director
Division of Waste Management

S. Jay Zimmerman, P.G.
Director
Division of Water Resources

cc:

ED_002003F_00001077-00002

FILED

2017 SEP -8 P 5:32

BLADEN COUNTY, C.S.C.

BY

STATE OF NORTH CAROLINA

COUNTY OF BLADEN

IN THE GENERAL COURT OF JUSTICE
SUPERIOR COURT DIVISION
17 CVS 580

STATE OF NORTH CAROLINA, *ex rel.*, MICHAEL S. REGAN, SECRETARY, NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY,	)	
Plaintiff,	)	
v.	)	**PARTIAL CONSENT ORDER**
THE CHEMOURS COMPANY FC, LLC,	)	
Defendant.	)	

Plaintiff, the State of North Carolina, by and through the North Carolina Department of Environmental Quality ("DEQ") and Defendant The Chemours Company FC, LLC ("Chemours"), together with its agents, employees, successors and assigns, hereby agree to the entry of this Partial Consent Order in order to partially resolve matters in controversy between DEQ and Chemours.

This Consent Order partially resolves this matter. Plaintiff reserves, and this Partial Consent Order is without prejudice to, all rights against Chemours, concerning all other matters, including but not limited to the following: 1) claims based on Chemours' new or subsequent violations of surface water quality laws and NPDES permitting requirements; 2) claims based on chemicals not identified in this Partial Consent Order; 3) claims based on Chemours' violations of groundwater quality standards; 4) claims based on Chemours' failure to satisfy any term or

ED_002003F_00001078-00001

provision of this Partial Consent Order. Chemours reserves, and this Partial Consent Order is also without prejudice to all of Chemours' rights and defenses, except for the matters set forth in this Partial Consent Order and is without admission as to any fact.

NOW THEREFORE, upon the consent of the parties, it is hereby ORDERED, ADJUDGED AND DECREED that:

1. Chemours shall continue the measures it has implemented to prevent the discharge of process wastewater containing GenX (HFPO dimer acid) into waters of the State.
2. Chemours shall immediately prevent the discharge of PFESA compounds referenced in Paragraph 57 of the Complaint in this matter from what Chemours has represented to be the single source of significance in terms of discernible levels of these compounds, and shall continue to prevent the discharge of the same from this source until such time as an NPDES permit with appropriate permit conditions authorizing any such discharge is issued;
3. Upon the Chemours' and DEQ's execution of a mutually agreeable confidentiality agreement, Chemours shall immediately give permission to EPA for DEQ to review confidential business information as set forth in the four categories outlined on page 2 of the August 16, 2017 letter from William Lane to R. Steven DeGeorge;
4. Chemours agrees to make good faith efforts to respond to information requests by DEQ, including providing the remainder of the information requested in the correspondence listed below in a timeframe to be agreed upon by the parties and presented to the Court:
    a. The letter dated July 21, 2017 sent by DEQ Secretary Michael S. Regan, attached to the Complaint in this matter as Exhibit N;

b. The letter dated August 16, 2017 sent by DEQ General Counsel William Lane, attached to the Complaint in this matter as Exhibit O;

c. The August 18, 2017 Letter; and

d. The letter dated August 29, 2017 sent by DWR Deputy Director Linda Culpepper, attached to the Complaint in this matter as Exhibit Q.

5. The Partial Consent Order is enforceable by and through the contempt powers of this Court, pursuant to Chapter 5A of the North Carolina General Statutes.

6. Each undersigned representative of a party to this Partial Consent Order certifies that he or she is authorized to enter into the terms and conditions of this Partial Consent Order, and to execute and legally bind such party to this Partial Consent Order.

This the 8th day of September, 2017.

Douglas B. Sasser
Senior Resident Superior Court Judge

ED_002003F_00001078-00003

WE CONSENT:

NORTH CAROLINA DEPARTMENT
OF ENVIRONMENTAL QUALITY

By: _____
Linda Culpepper
Deputy Director

Division of Water Resources
PLAINTIFF

THE CHEMOURS
COMPANY, LLC

By: _____
R. Steven DeGeorge
Robinson Bradshaw & Hinson

ED_002003F_00001078-00004

To: Walker, Mary[walker.mary@epa.gov]
From: Allenbach, Becky
Sent: Sat 12/9/2017 5:25:08 AM
Subject: Fwd: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 2pm & Briefing Paper attached
OCE Weekly AA-DAA 12112017.pdf
ATT00001.htm

FYI

Becky B. Allenbach, Chief
Grants and Drinking Water Protection Branch
Water Protection Division - Region 4
404-562-9687

Begin forwarded message:

From: "Garvey, Mark" <Garvey.Mark@epa.gov>
Date: December 9, 2017 at 12:14:38 AM EST
To: "Mitchell, Ken" <Mitchell.Ken@epa.gov>, "Speir, Jeffrey" <speir.jeffrey@epa.gov>, "Theis, Joseph" <Theis.Joseph@epa.gov>, "Kelley, Rosemarie" <Kelley.Rosemarie@epa.gov>
Cc: "Pollins, Mark" <Pollins.Mark@epa.gov>, "Denton, Loren" <Denton.Loren@epa.gov>, "King, Carol" <King.Carol@epa.gov>, "Bahk, Benjamin" <Bahk.Benjamin@epa.gov>, "Collins, Charlie" <collins.charlie@epa.gov>, "Rog, Morgan" <Rog.Morgan@epa.gov>, "Sullivan, Greg" <Sullivan.Greg@epa.gov>, "Saenz, Diana" <Saenz.Diana@epa.gov>, "Miles, James" <miles.james@epa.gov>, "Oif, Leslie" <Oif.Leslie@epa.gov>, "Allenbach, Becky" <Allenbach.Becky@epa.gov>, "Kemker, Carol" <Kemker.Carol@epa.gov>, "Jones, Aaryn" <Jones.Aaryn@epa.gov>, "Toney, Anthony" <Toney.Anthony@epa.gov>, "Bookman, Robert" <Bookman.Robert@epa.gov>, "George, Verne" <George.Verne@epa.gov>, "Bates, Keith" <Bates.Keith@epa.gov>, "Tucker, Marlene" <Tucker.Marlene@epa.gov>, "Nowell, Valerie" <Nowell.Valerie@epa.gov>, "Hansen, Susan" <Hansen.Susan@epa.gov>, "Lamberth, Larry" <Lamberth.Larry@epa.gov>, "Buso, Roberto X" <Buso.Roberto@epa.gov>, "Palmer, Leif" <Palmer.Leif@epa.gov>, "Schulz, Susan" <Schulz.Susan@epa.gov>, "Strynar, Mark" <Strynar.Mark@epa.gov>, "Lindstrom, Andrew" <Lindstrom.Andrew@epa.gov>, "George, Verne" <George.Verne@epa.gov>, "Davis, Lauren O." <Davis.LaurenO@epa.gov>, "Duchovnay, Andrew" <Duchovnay.Andrew@epa.gov>, "Shell, Karrie-Jo" <Shell.Karrie-Jo@epa.gov>, "Moyer, Adam" <moyer.adam@epa.gov>, "Doa, Maria" <Doa.Maria@epa.gov>, "Aubee, Catherine" <Aubee.Catherine@epa.gov>, "Vendinello, Lynn" <Vendinello.Lynn@epa.gov>, "Buckley, Timothy" <Buckley.Timothy@epa.gov>, "Harris, Kimberly" <harris.kimberly@epa.gov>, "Clark, Jacqueline" <clark.jacqueline@epa.gov>
Subject: RE: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 2pm & Briefing Paper attached

There are conflicting times for the Monday meeting. The agenda from the front office says 1pm and the invite from the front office says 2.
My management believes it is **scheduled for 2pm on Monday** and the agenda has the wrong time. The attachment also has the final GenX briefing paper below the item below the agenda.

Sorry for the confusion. We'll try to clarify things on Monday.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Friday, December 08, 2017 3:15 PM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Cc: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Rog, Morgan <Rog.Morgan@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Nowell, Valerie <Nowell.Valerie@epa.gov>; Hansen, Susan <Hansen.Susan@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Strynar, Mark <strynar.mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; George, Verne <George.Verne@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>
Subject: RE: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 1pm

Attached is the agenda for the **Monday ** 1pm Susan Bodine Briefing**

It is part of the weekly OCE meeting with the AA.

OCE Weekly w/AA/DAA/PDAA, call in number **Personal Phone / Ex. 6**

Region 4 will be joined by Regions 2, 3 and 5 on the call.

I'll send the final briefing paper when it becomes available.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.govcl

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Kemker, Carol[Kemker.Carol@epa.gov]
From: Allenbach, Becky
Sent: Wed 12/13/2017 6:54:46 PM
Subject: FW: Chemours timeline
Cape Fear GenX Timeline_121317.docx

Becky B. Allenbach, Chief
Grants and Drinking Water Protection Branch
Water Protection Division
EPA Region 4 – Atlanta
Office: 404-562-9687
Cell: Personal Phone / Ex. 6

CONFIDENTIALITY NOTICE: This message is intended exclusively for the individual(s) or entity(s) to whom or to which it is addressed. This communication may contain information that is proprietary, privileged, pre-decisional, confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it. If you have received this message in error, please notify the sender immediately by e-mail and delete all copies of the message.

From: Hall, Renea
Sent: Wednesday, December 13, 2017 1:02 PM
To: Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>
Cc: Allenbach, Becky <Allenbach.Becky@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>
Subject: RE: Chemours timeline

KJ,
Here's my start.

Becky,
I'm unsure if you'd like to include TSCA on this to update their parts or add any additional details.

Aaryn,
I've added some place holders to mark the RCRA sampling private well sampling events. I'd like you to confirm the dates and details regarding this.

From: Shell, Karrie-Jo
Sent: Wednesday, December 13, 2017 8:03 AM
To: Hall, Renea <Hall.Renea@epa.gov>
Subject: Chemours timeline

Please send me any timeline you have developed re Chemours.

Karrie-Jo Robinson-Shell, P.E.
Environmental Engineer
US EPA Region 4
Water Protection Division
61 Forsyth Street
Atlanta, GA 30303
(404) 562-9308

To: Campbell-Dunbar, Shawneille[Campbell-Dunbar.Shawneille@epa.gov]; Elliott, Richard[Elliott.Richard@epa.gov]; Chavez, Araceli[Chavez.Araceli@epa.gov]; Driskell, Amanda[Driskell.Amanda@epa.gov]
Cc: Hall, Renea[Hall.Renea@epa.gov]
From: Allenbach, Becky
Sent: Thur 8/17/2017 3:55:41 PM
Subject: FW: GenX - Chemours Authorities Paper
Chemours GenX Options Paper 081717.docx
ATT00001.htm

If comments, send directly to Scott due to short turn around

Becky B. Allenbach, Acting Deputy Director
Water Protection Division
EPA Region 4 – Atlanta
Office: 404-562-9687
Cell: Personal Phone / Ex. 6

From: Gordon, Scott
Sent: Thursday, August 17, 2017 11:30 AM
To: Walker, Mary <walker.mary@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Ireland, Laurie <Ireland.Laurie@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>
Subject: Fwd: GenX - Chemours Authorities Paper

Please provide any edits to me by cob today.

Let me know directly if our and HQ's direction is misaligned.

Thanks

Scott
Sent from my iPhone
Begin forwarded message:

> **From:** "Miles, James" <miles.james@epa.gov>
> **Date:** August 17, 2017 at 11:00:51 AM EDT
> **To:** "Gordon, Scott" <Gordon.Scott@epa.gov>, "Doa, Maria" <Doa.Maria@epa.gov>, "Nagle, Deborah" <Nagle.Deborah@epa.gov>, "Thompkins, Anita" <Thompkins.Anita@epa.gov>
> **Cc:** "Sullivan, Greg" <Sullivan.Greg@epa.gov>, "Saenz, Diana" <Saenz.Diana@epa.gov>, "Garvey, Mark" <Garvey.Mark@epa.gov>, "Baney, Tony" <Baney.Tony@epa.gov>, "Seltzer, Mark" <Seltzer.Mark@epa.gov>, "Speir, Jeffrey" <speir.jeffrey@epa.gov>, "King, Carol" <King.Carol@epa.gov>, "Theis, Joseph" <Theis.Joseph@epa.gov>
> **Subject: GenX - Chemours Authorities Paper**
>
> Hi all –
>
> As discussed earlier in the week, please find attached a draft paper discussing the pertinent enforcement and regulatory authorities to respond to the GenX situation. We're especially seeking comments from our program counterparts on the regulatory front.
>
> In terms of timing, our OCE OECA Office Director would like to have a draft by COB Friday. For us to incorporate your comments, we would need them at the latest by **10AM tomorrow**. Apologies for the tight turnaround, but we'll continue to work closely with you even after the draft moves forward.
>
> Please send comments/revisions/questions to Mark Garvey, Greg Sullivan and me.
>
> Thanks in advance!
>
> James Miles, Chief
> Chemical Risk and Reporting Enforcement Branch

Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A
1201 Constitution Ave., NW
Washington, DC 20004
202.564.5161
miles.james@epa.gov

To: Bouma, Stacey[Bouma.Stacey@epa.gov]; Campbell-Dunbar, Shawneille[Campbell-Dunbar.Shawneille@epa.gov]; Smith, Brian[Smith.Brian@epa.gov]; Hall, Renea[Hall.Renea@epa.gov]
Cc: Shelton, Anthony[Shelton.Anthony@epa.gov]
From: Allenbach, Becky
Sent: Thur 9/14/2017 5:07:52 PM
Subject: FW: Prep Materials for calls with AL/GA and TN - DUE COB 9/15
NC Prep materials for Bi Monthly Calls.pdf

Allenbach, Becky has shared OneDrive for Business files with you. To view them, click the links below.

R4 35th Avenue.pdf

R4 Chattanooga Foundries.pdf

R4OakRidge.pdf

TN Knoxville PM-071917-KM.pdf

TN Memphis RVP-071917-KM.pdf

TN SO2-071917-KM.pdf

TN TV Petitions-071917-KM.pdf

Do we have anything? Renea, can you dig up the AL/GA issue paper?

Becky B. Allenbach, Chief
Grants and Drinking Water Protection Branch
Water Protection Division
EPA Region 4 - Atlanta
Office: 404-562-9687
Cell: Personal Phone / Ex. 6

From: Lambert, Wesley
Sent: Wednesday, September 13, 2017 11:21 AM
To: Allenbach, Becky <Allenbach.Becky@epa.gov>; Diaz, Denisse <Diaz.Denisse@epa.gov>; Mcgill, Thomas <Mcgill.Thomas@epa.gov>; Benante, Joanne <benante.joanne@epa.gov>; Thomas, Chris <Thomas.Chris@epa.gov>
Cc: Campbell-Dunbar, Shawneille <Campbell-Dunbar.Shawneille@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Bouma, Stacey <Bouma.Stacey@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>; O'Lone, Dan <Olone.Dan@epa.gov>; Horsey, Maurice <Horsey.Maurice@epa.gov>; Able, Tony <Able.Tony@epa.gov>; Derby, Jennifer <Derby.Jennifer@epa.gov>; Godfrey, Annie <Godfrey.Annie@epa.gov>; Danois, Gracy R. <Danois.Gracy@epa.gov>; Purify, Johnnie <Purify.Johnnie@epa.gov>; Baker, Frank <Baker.Frank@epa.gov>; Ellington, Natalie <Ellington.Natalie@epa.gov>; Nuhfer, Mark <Nuhfer.Mark@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Zapata, Cesar <Zapata.Cesar@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>
Subject: FW: Prep Materials for calls with AL/GA and TN - DUE COB 9/15

Branch/Section Chiefs:

Please see Bryan Myers request below for Hot Issues related to the States of Alabama, Georgia and Tennessee. Send any hot issues that we would like for the RA to be aware of before he takes his bimonthly call with those states. Bryan has included **North Carolina Prep** materials as a format for how the information should be written up. Please send me the hot issues no later than **COB Thursday, Sept. 14th.**

We will probably have to respond to some additional requests as soon as Bryan receives word of what the states would like to bring up with the RA, so stay tuned.

Thanks,

Wesley

From: Myers, Bryan
Sent: Wednesday, September 13, 2017 10:55 AM
To: Hill, Franklin <Hill.Franklin@epa.gov>; Chaffins, Randall <Chaffins.Randall@epa.gov>; Wilkes, Mary <Wilkes.Mary@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Gettle, Jeaneanne <Gettle.Jeaneanne@epa.gov>; Mundrick, Doug <Mundrick.Doug@epa.gov>; Farmer, Alan <Farmer.Alan@epa.gov>; Monell, Carol <Monell.Carol@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Zapata, Cesar <Zapata.Cesar@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Lincoln, Larry <Lincoln.Larry@epa.gov>; Lapierre, Kenneth <Lapierre.Kenneth@epa.gov>; Tennessee, Denise <Tennessee.Denise@epa.gov>
Cc: Wise, Allison <Wise.Allison@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Hudson, Wanda <Hudson.Wanda@epa.gov>; Jones-Johnson, Shea <Jones-Johnson.Shea@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Park, Susan <Park.Susan@epa.gov>; Eubanks, Kristy <Eubanks.Kristy@epa.gov>; Guillard, Jennifer <Guillard.Jennifer@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Heard, Anne <Heard.Anne@epa.gov>; Ghosh, Mita <Ghosh.Mita@epa.gov>; Johnson, Belinda <Johnson.Belinda@epa.gov>; Houser, Tiffany <Houser.Tiffany@epa.gov>; Reese, Tondia <Reese.Tondia@epa.gov>; Tennessee, Denise <Tennessee.Denise@epa.gov>; Bonner, Brenda <Bonner.Brenda@epa.gov>; Lambert, Wesley <Lambert.Wesley@epa.gov>; Marcus, Pam <marcus.pam@epa.gov>
Subject: Prep Materials for calls with AL/GA and TN - DUE COB 9/15

Good Morning

It's time to make sure we have all the prep work and materials for the next round of calls with GA EPD, ADEM and TDEC. We might also be rescheduling NC within the next two weeks as a heads up.

GA EPD – 9/21 @ 11am
TDEC - 9/22 @ 2pm
ADEM – 9/26 @ 2pm

I have reached out to the State's for any topics that they would like to bring up. Given the hurricane response, I am unsure when I might get those requested topics, but will forward those along as soon as I get them. In the meantime, I have included the hot issues that were submitted for the Ken Wagner visit. Please update as needed and provide any other hot issues you feel relevant. I also included the NC Prep materials to make sure you submit your Issues in this format to make it easier to combine materials. Please only have Issue, Response, and Background. Please provide all materials by COB Friday September 15th.

We will be setting up another pre-brief with Trey and you will get that invite soon.

Thank you all for your attention to this and please let me know if there is anything I can do to help.

Bryan M. Myers
Office of Government Relations
U.S. EPA, Region 4
Atlanta, Georgia 30303
(404) 562-9603

Message

From: Davis, Molly [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=4B29054D7BD844B2B71CFA356AA57CE5-DAVIS, MARIBETH]
Sent: 5/7/2018 5:29:46 PM
To: Allenbach, Becky [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fd8d7185973c44268441863f02a769d1-Allenbach, Becky]; Hall, Renea [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7e6fa15b05c0453da3cae5dacdb93574-Hall, Renea]; Campbell-Dunbar, Shawneille [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9b7875885956406285acbdc4f03c5f02-Campbell-Dunbar, Shawnelle]
CC: Shell, Karrie-Jo [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d09958f715734dcc80bce5341df5a36c-Shell, Karrie]
Subject: FW: [External] Additional Site Investigation Report
Attachments: ltr req. addtl info Nafion ditch 3.23.18.pdf; Response to March 23, 2018 DEQ Letter 4.09.2018.pdf; 1977 DEQ Letter Re Construction of Nitric Addition.pdf; PFAS Focused FS report_2018-02-28.pdf

Importance: High

Karrie-Jo and I had a short conversation with Julie Grzyb this morning regarding GenX seeping into groundwater and contaminating a perched aquifer beneath the site. RCRA was concerned about the pipe possibly still leaking so that is what precipitated our call to NC. Attached are the letters NC sent Chemours to inquire about the leak.

From: Grzyb, Julie [mailto:julie.grzyb@ncdenr.gov]
Sent: Monday, May 7, 2018 12:45 PM
To: Davis, Molly <Davis.Molly@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>
Subject: FW: [External] Additional Site Investigation Report
Importance: High

Molly/ Karrie-Jo,
Initially Chemours submitted an Focused Feasibility Study at the Chemours Fayetteville Works plant in Feb. 2018 to the DWM that suggested historical Nafion process wastewaters being discharged to a ditch as part of the reason the on-site perched aquafer was contaminated. I followed up with a letter requesting more information on this Nafion process wastewater on March 23rd. On April 9th, Chemours responded with new information stating the contamination did not only come from the ditch but mostly from a terracotta sewer pipe that formerly carried process wastewater from the Fluoropolymers/Nafion area to the WWTP. This pipe was cut and capped in Nov. 2017.
All documents are attached.

My understanding is that a letter was to be sent requesting much more information on the contribution of the terracotta pipe to PFAS levels in the perched zone from DMW.

As far as violations – there are several that could be pursued. DEQ recently sent one following up on air emissions which impacts surface and groundwater.
This is an ongoing process.
After you read these you may want to discuss further.

Julie

Julie A Grzyb
Supervisor
NPDES Complex Permitting
NC DEQ / Division of Water Resources / Water Quality Permitting

919 807 6390 office

919 707 9000 main office
julie.grzyb@ncdenr.gov

Physical Address: 512 North Salisbury St.,Raleigh, NC, 27604
Mailing Address: 1617 Mail Service Center, Raleigh, NC, 27699-1617

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

C. Stem

DIVISION OF ENVIRONMENTAL MANAGEMENT

November 22, 1978

Mr. R. P. Haden, Plant Management
E. I. DuPont De Nemours and Company
Drawer Z
Fayetteville, North Carolina 28302

SUBJECT: Permit No. NC0003573
Authorization to Construct
E. I. DuPont de Nemours
Equalization Basin
Fayetteville Works
Bladen County

Dear Mr. Haden:

The final plans and specifications for the subject project have been reviewed and found to be satisfactory. Authorization is hereby granted for the construction of a 0.5 MGD equalization system to consist of a 0.25 MG aerated equalization tank, a 200 scfm blower, and approximately 100 linear feet of 8-inch force main additions to the existing 0.5 MGD extended aeration wastewater treatment plant to serve the Fayetteville Works.

This Authorization to Construct shall be subject to the following Conditions: No bypassing of the existing equalization system or other portions of the existing wastewater treatment plant shall occur during construction.

This is a Class II Wastewater Treatment Plant which requires that the operator in responsible charge hold a valid Grade II Certificate.

This Authorization to Construct shall be subject to revocation unless the wastewater treatment facilities and additions are constructed in accordance with the conditions and limitations specified in Permit No. NC0003573.

Also, enclosed is a copy of WPC Form #50 "Cost of Wastewater Treatment Works." This form is to be completed and returned to this office within thirty(30) days after the project is completed.

One(1) set of approved plans and specifications is being returned to you.

Sincerely yours,
Original Signed by
A. F. McRORIE
A. F. McRorie
Director

Enclosures
Cc: Cumberland County Health Dept.
Environmental Protection Agency
Mr. Dennis Ramsey
✓ Mr. W. S. Hoffman
Information Services

Vance

December 15, 1977

Mr. R. P. Haden, Plant Manager
E. I. DuPont de Nemours & Company, Inc.
P. O. Drawer Z
Fayetteville, North Carolina 28302

SUBJECT: Permit No. NC0003573
Authorization to Construct
DuPont de Nemours & Company
Pretreatment Facilities
Bladen County

Dear Mr. Haden:

The final plans and specifications for the subject project have been reviewed and found to be satisfactory. Authorization is hereby granted for the construction of pretreatment type additions to existing 0.5 MGD wastewater treatment facilities consisting of a 10,900 gallon alkaline waste storage tank, a 15,000 gallon hypochlorite waste storage tank, a 7,000 gallon acidic waste storage tank and a 25 gpm pump to serve each storage tank and a 400 gallon neutralization tank, a 7,400 gallon sump with dual 100 gpm pumps, a 42,000 gallon equalization tank with a 70 gpm recirculation pump and a 30 gpm pump. Also, authorization is hereby granted for the construction of additions to the 11.4 MGD cooling water discharge system consisting of a 300 gallon nitric acid waste storage tank with a 2 gpm pump and a 70 gallon neutralization tank with a 0.3 gpm pump.

This is a Class II wastewater treatment facility which requires that the person in responsible charge hold a valid Grade II Certificate.

This Authorization to Construct shall be subject to revocation unless the wastewater treatment facilities are constructed in accordance with the conditions and limitations specified in Permit No. NC0003573.

Also, enclosed is a copy of WPC Form #50 " Cost of Wastewater Treatment Works." This form is to be completed and returned to this office within thirty (30) days after the project is completed.

One (1) set of approved plans and specifications is being forwarded to you.

Sincerely,
Original Signed by
W. E. KNIGHT
W. E. Knight
Director

Enclosures
cc: Environmental Protection Agency
Bladen County Health Department
Mr. Dennis Ramsey
Mr. W. S. Hoffman
Planning and Mangement
Section

February 28, 2018

Mr. Joe Ghiold, Project Manager
Facility Management Branch
Hazardous Waste Section
Division of Waste Management
NC Department of Environmental Quality
1646 Mail Service Center
Raleigh, NC 27699-1646

Re: Focused Feasibility Study Report– PFAS Remediation
Chemours Fayetteville Works
Fayetteville, North Carolina
EPA ID No. NCD 047 368 642

Dear Mr. Ghiold:

Enclosed, please find two hard copies of the *Focused Feasibility Study Report – PFAS Remediation* for the Chemours Fayetteville Works. The purpose of this FS is to analyze potential remedial options to address discharges from the site to the surface-water, groundwater and, ultimately the Cape Fear River. In addition to this hard copy of the report, an electronic submittal (PDF) has been made to you via email.

If you have any questions or need additional information, please feel free to contact me at 704-560-6435.

Respectfully submitted,

Kevin Garon
Project Director
Chemours Corporate Remediation Group

cc: Christel Compton – Chemours Fayetteville Works
File

Enclosures

PARSONS

FOCUSED FEASIBLITY STUDY REPORT – PFAS REMEDIATION

CHEMOURS FAYETTEVILLE WORKS
RCRA PERMIT NO. NCD047368642-R2-M3

Prepared for:

The Chemours Company FC, LLC
Corporate Remediation Group
22828 NC Highway 87 W
Fayetteville, NC 28306-7332

Prepared by:

PARSONS
4701 Hedgemore Drive
Charlotte, NC 28209

February 2018

Chemours PN 504639
Parsons PN 450768

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PROFESSIONAL SIGNATURES AND SEALS

Professional Engineer

Name	NC Engineer License number	Expiration date
Michael G. Robinson	034781	12/31/2018
Telephone number	**FAX number**	**E-mail**
(704) 558-4255		Michael.Robinson@parsons.com

DOCUMENT:

FOCUSED FEASIBLITY STUDY REPORT – PFAS REMEDIATION
CHEMOURS FAYETTEVILLE WORKS
RCRA PERMIT NO. NCD047368642-R2-M3

Seals, as applicable:

NORTH CAROLINA PROFESSIONAL SEAL 034781 ENGINEER MICHAEL G. ROBINSON

2-28-18

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Table 1 Remedial Alternative Screening

APPENDICES

Appendix A Mass Flux Assessment

ACRONYMS

Acronym	Definition / Description
APFO	Ammonium Perfluorooctanoate
bgs	Below ground surface
Chemours	The Chemours Company FC, LLC
CMS	Corrective Measures Study
COC	Constituent of concern
CSM	Conceptual site model
CRG	Corporate Remediation Group
DHHS	NC Department of Health and Human Services
DuPont	E. I. du Pont de Nemours and Company
FEP	Fluorinated ethylene propylene
FS	Feasibility Study
GCL	Geosynthetic Clay Liner
gpm	Gallon(s) per minute
GPR	Ground penetrating radar
HDPE	High-Density Polyethylene
HFPO-DA	Hexafluoropropylene oxide dimer acid
IXM	Ion Exchange Membrane
IM	Interim measure
IMAC	Interim maximum allowable concentrations
LF	Linear Feet
MSL	Mean sea level
NCDENR	North Carolina Department of Environmental and Natural Resources
NCDEQ	North Carolina Department of Environmental Quality
ng/L	Nanograms per liter
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and maintenance
PPA	Polymer processing aid
ppt	Parts per trillion
PMDF	Polymer Manufacturing Development Facility
PRB	Permeable reactive barrier
PVF	Polyvinyl Fluoride
PMDF	Polymer Manufacturing Development Facility
RAO	Remedial action objective
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
Site	Chemours Fayetteville Works Facility
USEPA	U. S. Environmental Protection Agency
WWTP	Wastewater treatment plant

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1.0 INTRODUCTION

Parsons has prepared this Focused Feasibility Study (FS) Report for Per- and Polyfluoroalkyl Substances (PFAS) on behalf of The Chemours Company FC, LLC (Chemours) for the Fayetteville Works facility located near Duart Township in Bladen County, North Carolina (the Site). The Site was owned by E. I. du Pont de Nemours and Company (DuPont) until July 2015.

The purpose of this FS is to analyze potential remedial options to address discharges from the site to the surface-water, groundwater and, ultimately the Cape Fear river. This report is organized into six sections, including this Introduction, which presents site background, operational information, and objectives. Section 2.0 presents a site conceptual model. Section 3.0 presents the remedial action objectives (RAOs), while Section 4.0 identifies the proposed technologies and presents the technology screening. The path forward is presented in Section 5.0. Finally, references cited in the text are presented in Section 6.0.

It should be noted that in Chemours' response to a February 12, 2018 Notice of Violation from North Carolina Department of Environmental Quality (NCDEQ) (which required a response by February 26, 2018) Chemours addressed actions that Chemours is taking to address control of sources of groundwater contamination. Those actions are also summarized in this report.

1.1 Site Background

The Site is located on NC Highway 87, 15 miles southeast of the City of Fayetteville, and south of the Bladen-Cumberland county line. The Site encompasses 2,177 acres of relatively flat undeveloped open land and woodland bounded on the east by the Cape Fear River, on the west by NC Highway 87, and on the north and south by farmland (Figure 1).

E.I. du Pont de Nemours and Company (DuPont) purchased the property in parcels from several families in 1970. A former manufacturing area, which was sold in 1992, produced nylon strapping and elastomeric tape.

DuPont sold its Butacite® and SentryGlas® manufacturing units to Kuraray America Inc. in June 2014. On July 1, 2015, DuPont separated its specialty chemicals business into a new publicly-traded company named The Chemours Company FC, LLC. With this separation, Chemours became the owner of the entire 2,177 acres of the Fayetteville Works along with the fluoromonomers, Nafion™ membranes, and PPA[1] manufacturing units. The polyvinyl fluoride (PVF) resin manufacturing unit remains with DuPont.

In addition to the manufacturing operations, Chemours operates two natural gas-fired boilers and a wastewater treatment plant (WWTP) for the treatment of process and sanitary wastewaters from Chemours, Kuraray, and DuPont. Hazardous wastes generated from the Chemours manufacturing processes and laboratories are currently managed at the permitted Hazardous Waste Container Storage Area, in four permitted hazardous waste tanks, and at the 90-day ignitable waste accumulation area prior to being shipped offsite for treatment, disposal, or recycling.

[1] PPA – polymer processing aid

1.2 Plant Site Operations

Figure 1 depicts the location of the Chemours Fayetteville Works facility on an excerpt of the United States Geological Survey topographic map of the area. The site layout is depicted on Figure 2. The Site consists of five main manufacturing areas, one former manufacturing area, and two support areas as summarized in the table below:

Area	Description
Main Manufacturing Areas	
Chemours Fluoromonomers and Nafion™ Membrane	Manufactures Nafion™ fluoropolymer membrane for electronic cells and various fluorochemicals used for Nafion™ membrane, Teflon® fluoropolymer, Viton® elastomers, and other fluorinated products.
Chemours Polymer Processing Aid (PPA)	Manufactures a fluorochemical that is used as a processing aid for off-site fluoropolymer manufacturing. This area formerly manufactured ammonium perfluorooctanoate (APFO). (Note: The last date of APFO production at the Site was April 28, 2013. Although APFO was manufactured in this area, it was never used in any of the other manufacturing facilities at the Site.)
Kuraray Butacite®	Manufactures Butacite® polyvinyl butyral sheeting and polyvinyl butyral resin for automotive and architectural safety glass.
Kuraray SentryGlas®	Manufactures SentryGlas® structural interlayer for automotive and architectural safety glass (previous location of now defunct Dymetrol® nylon strapping).
DuPont Company PVF	Manufactures PVF resin used to produce Tedlar® film.
Former Manufacturing Area	
Polymer Manufacturing Development Facility (PMDF)	Manufactured Teflon® fluorinated ethylene propylene (FEP) for electrical wiring insulation and other applications. (Note: this Teflon® unit did not use APFO in its process.) The PMDF unit was permanently shut down in June 2009; it no longer manufactures DuPont Teflon®.
Support Areas	
Power	Generates steam via natural gas and fuel oil-fired boilers for the facility's manufacturing areas as well as comfort heating for employees. Produces process water and demineralized water from raw river water.
Wastewater Treatment Plant	The WWTP treats process wastewater and sanitary wastewater prior to discharge to the Cape Fear River.

1.3 Regulatory History

The Fayetteville Works facility received its initial Resource Conservation and Recovery Act (RCRA) Permit (NCD047368642) to operate a hazardous waste container storage area and tanks in February 1983, while under DuPont ownership. DuPont submitted an amended Part A application in 1991 to document upgrades to its fluorocarbon waste treatment and tank system. The RCRA Part B permit application submitted in August 1993 identified 71,750 gallons of container storage capacity at the container storage area. Stored waste included characteristic wastes (D001, D002, D003, D007, D009, and D029) and listed wastes (F002, F003, and F005).

In January 1998, the Site's RCRA Permit was reissued and was to remain in effect for 10 years. Part V of the permit required DuPont to investigate potential releases of hazardous substances into the environment. In June 2007, DuPont submitted an application for renewal of the Site's RCRA Permit. The North Carolina Department of Environment and Natural Resources (NCDENR; now NCDEQ) reissued the permit on September 28, 2012.

Since 1996, several stages of investigation have been conducted at the Site under NCDENR/NCDEQ oversight to meet the conditions of the permit. The Phase III (Final) RFI[2] report was submitted in August 2014 (DuPont Corporate Remediation Group [CRG]). In addition, the Site voluntarily agreed to the NCDENR request to investigate potential APFO releases as part the ongoing RFI. The findings of the APFO investigation activities (conducted during the Phase II RFI) were included in Appendix A of the Phase II RFI Report (DuPont CRG 2006). The Corrective Measures Study (CMS) Work Plan was submitted on December 2, 2016 (Chemours CRG) and approved on February 8, 2017.

1.4 Feasibility Study Objectives

The purpose of this FS is to analyze potential remedial options to reduce on-site groundwater contamination, with a focus on discharges to the Cape Fear River. Several interim measures (IMs) and source control measures have already been implemented that have significantly reduced or eliminated direct discharges from the plant. Other IMs are also being proposed for addressing impacts to drinking water wells near the plant. These IMs are briefly described in Section 2 of this report. The specific objective of the remedial options discussed in this FS are to reduce groundwater discharges from the site and discharges from Willis Creek, Georgia Branch, and the old outfall channel to the Cape Fear River.

[2] RFI – RCRA Facility Investigation

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2.0 CONCEPTUAL SITE MODEL

Chemours uses the conceptual site model (CSM) to develop a representation of the chemical and physical characteristics of a site to focus investigation efforts and remedial decision making. The CSM also assists in the identification of areas for additional collection of potentially relevant data that can be addressed during future investigations.

The CSM for the Site was based on an analysis of potential exposure pathways, constituents of concern (COCs), and environmental fate and transport mechanisms. An accurate understanding of the geology and hydrogeology at the Site is also essential in developing the CSM. The current CSM was developed based on a review of historical data and the results of the activities and investigations conducted at the Site.

2.1 Physical Setting

The facility topography is relatively flat within the developed portion of the Site; surface topography then decreases towards the Cape Fear River to the east and Willis Creek to the north of the Site. Topographic relief is approximately 100 feet from the main manufacturing area down to the top of the riverbank and approximately 40 feet from the main manufacturing area to Willis Creek. Surface topography generally remains flat to the west; however, there is a gentle increase of about five feet to a topographic divide near Highway 87. In the far southwestern portion of the property, surface topography again decreases by 15 to 25 feet where the Georgia Branch Creek channel runs along the property line. The Georgia Branch Creek confluence with the Cape Fear River is approximately 1.3 miles south of the dam (0.75 miles southeast of the property).

The Cape Fear River is located along the eastern property boundary of the plant, approximately 1,850 feet from the eastern portion of the manufacturing area. Willis Creek, a tributary of the Cape Fear River is in the northern portion of the Site, approximately 3,000 feet from the manufacturing area. Process wastewater is sent off-site for proper disposal. On November 29, 2017, Chemours severed the pipe conveying wastewater from the Fluoromonomers/Nafion™ Membrane manufacturing area to Outfall 002 and the Cape Fear River, thus reducing PFAS concentrations at Outfalls 001 and 002, as well as concentrations in the effluent channel. These reductions are in addition to those reductions Chemours had achieved since July 2017 by identifying and voluntarily capturing for off-site disposal various waste streams from within the Fluoromonomers/Nafion™ Membrane manufacturing area. Portions of the Georgia Branch, another tributary to the Cape Fear River, flow along part of the southern boundary of the Site. The plant facilities are located on a plateau at an approximate elevation of 145 feet above mean sea level (MSL). The plant is situated approximately 70 feet above the 100- and 500-year Cape Fear River floodplains and at least 1,000 feet from the 100-year floodplain's nearest approach.

2.1.1 Site Geology

The facility is in the northwestern portion of Bladen County. Bladen County is situated within the Coastal Plain Physiographic Province, which consists of a seaward thickening wedge of sedimentary deposits ranging in age from Cretaceous to Recent. Paleozoic; metamorphic and igneous rocks underlie these deposits. The Site is underlain by the Black Creek Formation. The Black Creek Formation is characterized by lignitic clay, gray to black, and contains thin beds and laminae of fine-grained micaceous sand as well as thick lenses of cross-bedded sand. The upper portion of the formation may also contain glauconitic, fossiliferous clayey sand lenses. The Black Creek Formation and surficial deposits are the principal potable water aquifers in the region.

The soil on the Site falls within the Norfolk-Goldsboro-Raines general classification (Leab 1990). These soils are located on old, high stream terraces in the northern part of Bladen County and are generally poorly drained soils that have a sandy or loamy surface layer and loamy subsoil.

Based on the lithology logged during on-site investigations, the Site is underlain by a fine- to medium-grained sand unit with thin discontinuous interbedded silt/clay lenses. The sand extends to a depth of approximately 65 feet below ground surface (bgs) (elevation of +80 feet MSL). The saturated portion of this unit has been identified as the Surficial Aquifer. Beneath this unit is a 7- to 15-foot-thick, laterally-continuous dense clay that has been identified as the Black Creek Confining Unit. The elevation of this unit (approximately +65 to +77 feet MSL) indicates that it, too, should outcrop along the bluff face adjacent to the Cape Fear River, and potentially along the embankment near Willis Creek. Beneath this confining unit is the Black Creek Aquifer, which is approximately 8 to 20 feet thick and is encountered at depth between 80 and 100 feet bgs (elevation of approximately +45 to +65 feet MSL). Beneath this aquifer is a massive dense clay (with minor sand stringers) that has been identified as the Upper Cape Fear Confining Unit. This unit was not fully penetrated; however, it extended to at least 200 feet bgs (elevation of -55 feet MSL).

Within the manufacturing area, the uppermost sand unit is locally bisected by an aerially extensive stiff clay/clayey silt lens (clay lens). This clay lens is limited in lateral extent to the east, north and south by local topography and pinches out (terminates) to the west of the manufacturing area.

The depth to the top of the clay lens is approximately 15 to 18 feet bgs. The clay lens becomes thinner moving west across the manufacturing area. It ranges from approximately one foot to approximately 19 feet thick. A visual inspection for the clay lens was conducted along the drainage channel beside the bluff leading to the Cape Fear River. The clay lens was observed in the drainage channel bottom and was approximately 10 to 12 feet thick in the channel banks. The area of the channel where the clay lens was observed also coincided with an area of the channel where seepage faces were observed. Based on the elevation of the clay lens, it should outcrop on the bluff adjacent to the Cape Fear River.

2.1.2 Site Hydrogeology

A shallow unconfined aquifer (Surficial Aquifer) is encountered at approximately 50 feet bgs. Groundwater elevations range from approximately 100 to 107 feet above MSL in the western areas of the Site to approximately 93 feet above MSL in the eastern areas of the Site, indicating that groundwater flow is generally toward the Cape Fear River.

The Cape Fear River stage was recently measured to be 29.18 feet MSL, which is lower than the base elevation of the Surficial Aquifer, indicating that the Cape Fear River is a discharge boundary for the Surficial Aquifer. Based on groundwater elevations near Willis Creek, portions of the creek are “gaining” (groundwater discharges to the creek) and portions are “losing” (surface water infiltrates to the underlying groundwater). Georgia Branch Creek also appears to be a gaining stream near where State Road 1303 crosses Highway 87.

The Black Creek Aquifer is under confined conditions at the Site and is separated from the overlying Surficial Aquifer by a clay confining unit. The Black Creek Aquifer is the uppermost identified regional “state-wide” hydrogeologic unit. Flow in the Black Creek Aquifer is toward the Cape Fear River. The Cape Fear River stage is also lower than the

base of the Black Creek Aquifer, indicating that the Cape Fear River is also a discharge boundary for the Black Creek Aquifer.

A series of incised erosional channels were observed in the Cape Fear River floodplain located east of the manufacturing area. These channels can contain a steady flow of water where they intersect groundwater.

An aerially limited perched water zone exists on top of the clay lens that underlies most of the manufacturing area. This Perched Zone appears mainly to result from seepage of surface water through the bottom of the North/South Sediment Basins that are used to hold solids from Cape Fear River water (this water is used on-site as non-contact cooling water) and infiltration of non-contact cooling water from the Nafion™ Area ditch. The Perched Zone may also be recharged to a lesser extent by direct infiltration of rainfall and leakage from other on-site stormwater and non-process water conveyance ditches. Perched zone water flows in a radial pattern away from a potentiometric high near the north and south sedimentation basins (Figure 2) and the Nafion™ Area ditch. Where perched water is present, it is encountered from approximately 6 feet bgs at the basins to a depth of approximately 20 feet bgs along the edges of the Perched Zone west of the basins.

The lateral extent of the Perched Zone appears to be controlled by the topography and lateral limits of the clay lens. Perched water flows away from the potentiometric high along the top of the clay lens until either reaching the perimeter of the lens (where it would flow off the edge), reaching a seepage face (such as the one observed along the bluff adjacent to the river), or until there is insufficient hydraulic head. Flora at the Site (especially the heavily forested areas) consume the perched water through transpiration processes.

2.2 Sources of PFAS

Results of the investigations indicate that Target PFAS releases to environmental media from primary sources (e.g., wastewater conveyances and industrial process activities) have resulted in secondary sources present in environmental media. These secondary sources are present in on-site soil and groundwater (Perched Zone water, Surficial Aquifer groundwater, and Black Creek Aquifer groundwater) and off-site Surficial Aquifer groundwater. The distribution of detected Target PFASs in soil would appear to suggest air deposition is the primary source (in areas away from ditches). Although leaching of Target PFASs could lead to some of the detected groundwater concentrations, the higher groundwater concentrations are likely the result of leakage from stormwater and wastewater conveyance ditches. The observed distribution in the aquifers appears to result from Target PFAS migration with natural groundwater flow. Detection of PFAS in the surface water of Willis Creek, Georgia Branch, and the Cape Fear River, suggests probable migration of these groundwater secondary sources to these surface waters. However, sampling has suggested there are upstream sources in the Cape Fear River for some of the Target PFASs. A conceptual level water balance-based mass flux estimate indicates that hexafluoropropylene oxide dimer acid (HFPO-DA) in groundwater discharging to the river would not alone result in river water HFPO-DA concentrations at or above 140 nanograms per liter (ng/L, or parts per trillion [ppt]). A summary of the mass flux assessment is included as Appendix A.

Chemours has already undertaken, is undertaking, or has committed to undertake, numerous actions to identify, evaluate, remove, treat, mitigate, or control various on-site primary PFAS sources. Additional actions have already been implemented to address concerns in nearby off-site water wells. The elimination of PFAS primary sources has

already had a significant effect on reducing observed river water concentrations. On November 29, 2017, Chemours severed the pipe conveying wastewater from the Fluoromonomers/Nafion™ Membrane manufacturing area to Outfall 002 and the Cape Fear River, further reducing PFAS concentrations at Outfalls 001 and 002, as well as concentrations in the effluent channel. These reductions are in addition to those reductions Chemours had achieved since July 2017 by identifying and voluntarily capturing for off-site disposal various waste streams from within the Fluoromonomers/Nafion™ Membrane manufacturing area. Long-term solutions for these waste streams are currently being evaluated and are not discussed in this study. Off-site disposal of process wastewater has substantially eliminated the largest presumed source of PFAS discharge to the river, as shown by surface water data.

2.3 Inputs to the Cape Fear River

2.3.1 Willis Creek and Georgia Branch

Based on available data, migration of impacted groundwater from beneath the Site may not be the primary cause for Target PFAS concentrations seen in these tributaries. Detectable Target PFAS concentrations in surface water upstream of the Site suggests that off-site affected groundwater discharging to these tributaries is the primary source of Target PFAS concentrations. As a result, mitigating the source of mass to off-site groundwater (air deposition) should result in the reduction of Target PFAS concentrations in these surface waters to acceptable levels.

2.3.2 Current Outfall 002

Based on the CSM, past PFAS discharges to the river through this outfall were the result of certain Chemours' process wastewaters passing through the WWTP and ultimately being discharged to the river through Outfall 002. In late 2017, all such Chemours process wastewater discharges were eliminated. Specifically, effective November 29, 2017, all process and contact water from Nafion™ production is collected and shipped off-site for disposal. As a result, the primary source of PFAS to Outfall 002 has been mitigated. However, there remains a steady low-level Target PFAS concentration in Outfall 002 that is likely related to:

1. The presence of Target PFAS in the site intake water from the Cape Fear River, and
2. Stormwater runoff during rainfall events that picks up PFAS mass from land and buildings before flowing into ditches and being conveyed, directly or indirectly, to Outfall 002.

For some period following the cessation of Nafion™ process area wastewater discharges, the concentrations at Outfall 002 remained consistently below 140 ppt for HFPO-DA. Extensive collection of wipe sampling data from outdoor equipment at the Ion Exchange Membrane (IXM)/Nafion™ area indicates that an October 6, 2017 upset event, likely resulted in HFPO-DA residue on structures and equipment. It appears that during significant rain events, the HFPO-DA is washed into the ditch system and through Outfall 002. As this sampling has shown, the highest levels of residual HFPO-DA material are in the vicinity on the Vinyl Ethers South part of the facility, Chemours plans to begin a program of power washing equipment and facility components to remove residual contamination. This work will be conducted in phases, starting at the Vinyl Ethers South part of the facility and beginning by March 2, 2018. The planning to ensure

that the water being used does not damage electrical components and will be captured for off-site disposal is underway.

2.3.3 Old (Former) Outfall 002

This channel was used to convey water to the former NPDES outfall, and now operates as a conveyance of stormwater to the Cape Fear River. There is no active wastewater discharge from the Site into this former outfall. It appears that the former outfall channel (which was an unlined natural erosional channel off the manufacturing area) continued to erode into the underlying land over the life of its operation to the point where it now intercepts groundwater in the Surficial and Black Creek Aquifers. Based on recent monitoring, water volumes approximately double during moderate rainfall events. Chemours recognizes that PFAS mass is being discharged into the river through this former outfall and is developing action to mitigate it.

By March 30, 2018, Chemours expects to select a remedial option for this channel and submit a schedule for its expeditious design and implementation. The anticipated remedial option will consist of lining and/or piping the channel to limit Perched Zone infiltration. It bears noting that river water concentrations downstream do not currently exceed 140 ppt. Chemours is collecting additional data required to determine how best to address the former Outfall 002 discharge channel before proposing final remedial actions to NCDEQ. Samples have already been collected at several locations along this channel to inform the remedial design.

2.3.4 Surficial and Black Creek Aquifers

Affected groundwater in the Surficial and Black Creek Aquifers contributes a small amount of mass to the Cape Fear River through discharge of the groundwater to the river. The CSM, however, suggests that this discharging mass would not lead to a HFPO-DA concentration at or above 140 ng/L, and that the Surficial and Black Creek Aquifers do not appear to be contributing significantly to the river water HFPO-DA concentrations. Nonetheless, this report does evaluate the feasibility of potential remedial actions for these aquifers.

The available data and CSM suggest that contamination from the Perched Zone is infiltrating the lower aquifers. By dewatering the Perched Zone, Chemours expects to substantially reduce infiltration to other aquifers, and consequently, groundwater discharge to the river.

2.3.5 Perched Zone

It appears that the primary source of site-wide groundwater contamination is past releases of process water from unlined ditches (with a secondary source of air deposition across the Site). The primary source of process water infiltration has been eliminated.

The data currently indicates that the flow of Perched Zone groundwater containing PFAS is a secondary source of contamination. A clay layer at a depth of approximately 18 feet bgs allows this infiltrating water to create a localized Perched Zone. This Perched Zone is approximately 25 feet above the Surficial Aquifer water table.

Nafion™ Ditch

Most of the Nafion™ Area process wastewater historically was piped to the WWTP. However, there were other process and non-process streams containing PFAS that were

discharged into the unlined Nafion™ ditch. Part of this ditch water infiltrated into the underlying sandy soil.

The available data suggests that the Nafion™ ditch has been a significant contributing source of contamination to the Perched Zone under the facility. The ditch also contributes to the watering of the Perched Zone and its infiltration of other aquifers. The Nafion™ ditch presently carries up to 5 to 8 million gallons a day of non-contact cooling water from the IXM/Nafion™ facility to Outfall 002.

Sedimentation Basins

In addition to water infiltrating the Perched Zone through unlined ditches, there are also two large unlined basins on the Site that are used for disposal of solids removed from river water that is used for non-contact cooling. The solids are pumped as a slurry to the basins from a clarifier. This water infiltrates into the underlying sandy soil, adding to the Perched Zone. This perched water flows radially away from the hydraulic high beneath the Nafion™ ditch and the North and South Sediment Basins.

Interim Measures

Chemours proposes to pump the PFAS mass in Perched Zone water to reduce or eliminate the pathway for mass entering the deeper Surficial and Black Creek Aquifers. The pumping wells have been identified and the facility has already obtained the pumps. To address the Perched Zone as a contributing source, Chemours will begin (by March 15, 2018) to pump water from the three highest concentration wells in the Perched Zone (NAF-12, NAF-03, and PZ-18). It is estimated that the amount of water pumped per well will be in the range of three gallons per minute, with the precise level to be determined based on the experience once pumping begins. The pumped water will be containerized for off-site disposal until suitable treatment technology can be installed on-site. The preparation for this project is already underway; the technical team has identified the wells to be used and has ordered the pumps (starting with rental pumps so that we can begin sooner). By dewatering the Perched Zone, it is expected that there will be a substantial reduction in infiltration to other aquifers.

By reducing the infiltration of contaminated water into the Perched Zone, there will also be a reduction in the overall water loading of the zone, so that the water levels in that zone drop and the Perched Zone will not infiltrate, or will infiltrate less, into the Surficial and Black Creek aquifers near the River.

2.3.6 Air Emissions

Chemours has undertaken a comprehensive source testing program, which began in January 2018, and provides the basis for better understanding the sources and quantity of air emissions of HFPO-DA and other PFAS from the facility. The available information suggests that air emissions from the facility are impacting surrounding soil and groundwater via deposition. Chemours has been developing, in coordination with the NCDEQ Division of Air Quality, short-term and longer-term abatement options to reduce PFAS air emissions from the facility.

3.0 REMEDIAL ACTION OBJECTIVES

Chemours will address PFAS releases to environmental media from historical and current operations in a manner that protects people and the environment. Remedial actions will be completed in accordance with appropriate standards and will comport to the extent reasonably feasible with state groundwater quality standards and their customary application or utilization at similar sites in North Carolina.

Toward that end, Chemours proposes to focus in the near-term on a set of remedial actions and objectives that meet the following goals:

- Mitigates PFAS releases of significance to environmental media from primary and secondary sources on the property or current Site operations
- Protects Cape Fear River water quality consistent with established NCDEQ water quality standards and the North Carolina Department of Health and Human Services (DHHS) provisional health goal for drinking water
- Identifies and addresses off-site drinking water wells that exceed the DHHS provisional health goals

Near-term and long-term objectives and associated remedial actions are discussed further below.

3.1 Near-Term Objectives

The following objectives have been developed to address near-term goals:

- Expand the current quantitative assessment and understanding of the actual or potential significance of current and historical releases into environmental media (air, soil, groundwater, surface water) of HFPO-DA and other site-related PFAS.
- Continue to mitigate further releases of significance to environmental media, specifically:
    - Reduce air releases consistent with targets and schedules approved and agreed upon by NCDEQ.
    - Identify and address any significant remaining ongoing sources of process-impacted stormwater released to onsite groundwater or to surface water bodies.
- Identify and take specific actions to address discharge of onsite groundwater/surface water as necessary to ensure concentrations in the Cape Fear River do not exceed 140 ppt of HFPO-DA at any established downstream river water intake.

3.1.1 Actions Required to Achieve Near-Term Objectives

The following actions are proposed to achieve the short-term objectives:

- Finalize based on newly collected data and resubmit to NCDEQ the CSM that reflects the best current understanding of mass inputs to the river, how mass has been released, and how and to what extent those releases have been or are proposed to be reduced or discontinued in pursuit of remedial objectives.
- For off-site residential impacts, Chemours will continue to work with NCDEQ to implement the Granulated Activated Carbon pilot program for residential water and to adopt other feasible and effective measures to mitigate impacts to

groundwater outside the plant watershed from air deposition. Mass will be reduced or eliminated so that released materials are not deposited on the ground and infiltrated into drinking water zones at levels exceeding state standards. Until such time when these source mass removal or mitigation measures enable off-site groundwater to meet applicable state standards for those waters, Chemours will offer point-of-exposure treatment with activated carbon systems, and connections to public water supplies where existing water mains already exist and tap connections alone are required.[3]

- Actions required for the various inputs to the Cape Fear River:
  - **Willis Creek and Georgia Branch:** It appears that off-site groundwater is discharging to these tributaries. As a result, mitigating the source of mass to off-site groundwater (air deposition) should result in the reduction of PFAS concentrations in these surface waters to acceptable levels. Therefore, no remedial alternatives are analyzed for these tributaries.
  - **Current Outfall 002:** Chemours performed wipe sample testing of exterior equipment of the IXM/Nafion™ area and soil sampling. This sampling has shown highest levels of residual HFPO-DA material in the vicinity on the Vinyl Ethers South part of the facility. This is consistent with Chemours' working hypothesis that the residual contamination on surfaces was caused in substantial part by an incident (previously reported to NCDEQ), at the Vinyl Ethers South facility on October 6, 2017, which resulted in emissions and residual contamination from that facility. Chemours has developed a program of power washing surfaces and cleaning equipment to remove the residual contamination.
  - **Former Outfall 002:** Chemours plans to limit the transport of contaminated groundwater into this channel by lining and/or piping the channel. Samples have already been collected at several locations along this channel to inform the remedial design.
  - **Perched Zone:** Chemours believes that addressing the Perched Zone will reduce or eliminate the pathway feeding the deeper Surficial and Black Creek Aquifers. This will, in turn, lead to substantial reductions in the mass of any releases from the Site to the surrounding environment. The Perched Zone pathway can be removed or flow curtailed by any or a combination of the following: lining the sediment ponds; lining ditches that are contributing water and/or contaminants to the Perched Zone; and pumping and treating the Perched Zone groundwater. Options for addressing these concerns are the subject of this FS and are presented in the following sections.
    - **Nafion™ Ditch:** A core component of Chemours' source abatement plan is excavating and then lining the Nafion™ ditch which presently carries up to 5 to 8 million gallons a day of non-contact cooling water from the IXM/Nafion™ facility to Outfall 002. The available data suggests that this ditch has been a significant contributing source of contamination to the Perched Zone under the facility, and it also contributes to the watering of the Perched

[3] Chemours has submitted a proposal to NCDEQ for installing granular activated carbon treatment systems at residences with drinking water wells exceeding 140 ppt. NCDEQ has asked that further pilot testing be conducted to confirm the systems can achieve the stated goals and plans for that testing are being finalized.

Zone and its infiltration of other aquifers. Accordingly, Chemours intends to excavate contaminated materials in the bottom of the ditch and then line it to reduce future infiltration. The design work is underway and will be completed (along with the preparation of a schedule for implementation of this project) by March 30, 2018. The final project and schedule will be impacted by the availability of materials, the need to operate safely in this area which is within the blast zone[4], and other operational issues.

- **Sedimentation Basins:** The available data suggest that these basins are contributing to the watering of the Perched Zone, which in turn causes the Perched Zone to infiltrate the Surficial and Black Creek aquifer. Chemours plans to limit further such contributions by sequentially emptying and lining each basin with a high quality synthetic liner. The design work for this project is already underway.

- **Surficial and Black Creek Aquifers** Based on the CSM, the current condition of the Surficial and Black Creek Aquifers meets the near-term RAOs. Removal of the source area located in the Perched Zone will further reduce the contribution of PFAS to surface water, therefore no action is required to meet near-term RAOs for this unit. Continued groundwater monitoring will be conducted to verify that conditions continue to meet the RAOs. This study will also evaluate the feasibility of potential remedial actions to address these aquifers.
- **Air Emissions** Data collected from a comprehensive source testing program has provided information on the sources and quantity of air emissions of HFPO-DA and other PFAS from the facility. Chemours is focusing its abatement efforts on areas where it can achieve the greatest level of short term abatement. This testing has required the development of sampling and testing standards and methods where none previously existed, and that process continues as NCDEQ has asked Chemours to be able to sample and test for additional compounds. Chemours has been developing, in coordination with the NCDEQ Division of Air Quality, short term and longer-term abatement options to reduce PFAS air emissions from the facility.

3.2 Long-Term Objectives

Chemours recognizes that additional long-term goals may be called for to address on-site or off-site groundwater quality, in accordance with current or future state standards. These include default standards or interim maximum allowable concentrations (IMACs) or other modified standards for specific parameters or waters. Toward that end, Chemours proposes an adaptive management approach to guide further long-range actions, monitor progress, and determine if and where actions taken are sufficient, or alternatively, additional action may be necessary to achieve compliance with approved remedial objectives or other applicable standards.

[4] The facility is designed so that if there were to be an accidental explosion, debris would be directed in a single direction, called the "blast zone," which is off-limits during facility operation for safety reasons.

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4.0 IDENTIFICATION AND SCREENING OF TECHNOLOGIES

The following sections contain an analysis of potential remedial technologies and corrective measures alternatives that could be implemented to address mass located in the Perched Zone as well as surface water discharges from the Surficial and Black Creek Aquifers and the Old Outfall No. 002. As previously mentioned, Chemours is in the process of evaluating, designing and implementing a number of these remedial actions as well as implementing other interim measures to address immediate concerns.

4.1 Identification of Preliminary Remedial Alternatives

4.1.1 Perched Zone

The highest groundwater concentrations at the Site have been identified in this zone. It is therefore presumed to be the remaining major secondary source of PFAS to the Surficial and Black Creek Aquifers. The Perched Zone water is relatively shallow and easily accessible, and remediation of this water should have a significant effect on reducing site groundwater concentrations.

To address the Perched Zone as a contributing source (until the final remedy is selected and installed), Chemours will begin (by March 15, 2018) to pump water from the three highest concentration wells in the Perched Zone (NAF-12, NAF-03, and PZ-18). It is estimated that the amount of water pumped per well will be in the range of three gallons per minute, with the precise level to be determined based on the experience once pumping begins. The pumped water will be containerized for off-site disposal until suitable treatment technology can be installed on-site. The preparation for this project is already underway; the technical team has identified the wells to be used and has ordered the pumps (starting with rental pumps so that we can begin sooner).

In addition to the interim measure described above, several technologies have been selected for evaluation to further address this zone. The following technologies have been selected for evaluation:

P1. **No Action / Groundwater and Surface Water Monitoring Only:** This option provides a baseline case for comparison of options and to determine if additional action at the Site is warranted. Except for groundwater monitoring, no work is proposed under this alternative. This option includes 30 years of groundwater monitoring at 40 wells and surface water points across the Site. All subsequent options will include some level of groundwater monitoring.

P2. **Lining of Sedimentation Basins and Nafion™ Ditch:** Based on the current CSM, the sedimentation basins and Nafion™ ditch provide a significant amount of recharge to the Perched Zone. Lining these systems will significantly reduce the recharge of the Perched Zone and thus reduce the flux of PFAS to the Surficial Aquifer. Chemours has completed surface soil and storm runoff sampling for the purpose of evaluating which soils need to be addressed. The design work is underway. The basins and ditch would be lined with either a high-density polyethylene (HDPE) liner or geosynthetic composite liner (GCL) system to prevent water from percolating out of them. Figure 3 shows the proposed areas to be lined.

The following scope of work is proposed:

1. Install a temporary 20 gpm groundwater treatment system consisting of two-stage carbon treatment (Figure 4).

2. Install a temporary dewatering system around the South Sedimentation Basin to lower the groundwater level for construction.
3. Dredge South Sedimentation Basin. Settled river solids will be removed from the basin and dewatered. Supernatant will be placed in the North Sedimentation Basin. The dewatered solids will be transported off-site for disposal in a Subtitle D landfill. Three feet of solids are assumed in the 1.3-acre basin.
4. Prepare the subgrade and line the South Sedimentation Basin. The basin will be lined with either a 45-mil HDPE liner or a GCL system. A one-foot soil cover will be placed on top of the liner for protection, and rip rap or similar material will be used on the side slopes to protect the liner and prevent erosion.
5. Return the South Sedimentation Basin to service and shut off the North Sedimentation Basin.
6. Install a temporary dewatering system around the North Sedimentation Basin to lower the groundwater level for construction.
7. Dewater the North Sedimentation Basin and remove settled solids. Supernatant will be placed in the South Sedimentation Basin, and dewatered solids will be sampled and managed in accordance with applicable regulations. One foot of solids is assumed in the 1.3-acre basin.
8. Prepare the subgrade and line the North Sedimentation Basin.
9. Provide bypass pumping for and dewater the Nafion™ ditch.
10. Prepare subgrade and install liner.
11. Return ditch to service.
12. Remove dewatering and treatment systems.

P3. **Single Recovery Trench with Pump-and-Treat System:** In addition to lining the ponds and Nafion™ ditch, this option involves the installation of a 1,500-linear-foot (LF) recovery trench east of the Nafion™ area. The combined system would reduce recharge to the Perched Zone and recover additional groundwater for treatment using either granular activated carbon, organoclay, or a combination of the two. The treated water would be discharged to the river.

The following scope of work is proposed:

1. Line the basins and Nafion™ ditch as described above with the exception that the proposed 20 gpm treatment plant (Figure 4) would remain on site to treat water from the recovery trench.
2. Construct 1,500 LF the recovery trench as shown on Figure 5. The 15-foot-deep by 2-foot-wide trench would be constructed using traditional construction methods (excavator).
3. At an estimated 20 gpm recovery rate, the treatment plant is estimated to operate for 10 years.

P4. **Two Recovery Trenches with Pump-and-Treat System:** In addition to lining the ponds and Nafion™ ditch and installing a 1,500 LF trench, this option involves the installation of a 2,000 LF recovery trench west of the Nafion™ ditch

and a recovered groundwater treatment system. The combined system would reduce recharge to the Perched Zone and recover additional groundwater for treatment using either granular activated carbon, organoclay, or a combination of the two.

The following scope of work is proposed:

1. Line the basins and Nafion™ ditch as described above.
2. Construct a 40 gpm treatment plant to treat water from the recovery trenches. The treatment plant would be similar to the 20 gpm system (Figure 4), but would consist of two parallel treatment trains.
3. Construct the 1,500 LF and 2,000 LF recovery trenches as shown on Figure 6. The 15-foot-deep by 2-foot-wide trenches would be constructed using traditional construction methods (excavator).
4. At an estimated 40 gpm recovery rate, the treatment plant is estimated to operate for 5 years.

P5. **Pump and Treat with Horizontal Recovery Well:** This option is similar to option 3 above, but the recovery trench is replaced with a horizontal recovery well. The well would be installed at the same location as the trench shown on Figure 5. The treated water would be discharged to the river.

The following scope of work is proposed:

1. Line the basins and Nafion™ ditch as described above, except that the proposed 20 gpm treatment plant (Figure 4) would remain on-site to treat water from the recovery trench.
2. Construct a 1,500 LF horizontal recovery well using horizontal directional drilling.
3. At an estimated 20 gpm recovery rate, the treatment plant is estimated to operate for 10 years.

P6. **Temporary Dewatering and Pump-and-Treat System:** In addition to lining the ponds and Nafion™ ditch, this option involves the installation of temporary vertical well points and headers to dewater the Perched Zone. A temporary treatment system would be utilized to treat the extracted groundwater prior to discharge to the river. Once the area is sufficiently dewatered, the well points and treatment system would be removed. Once the area is sufficiently dewatered, the well points and treatment system would be removed. This option has the advantage of quickly dewatering the Perched Zone without leaving behind any permanent or long-term infrastructure.

The following scope of work is proposed:

1. Line the basins and Nafion™ ditch and install temporary treatment system as described above.
2. The Site over the Perched Zone would be divided into areas roughly the same size as the sedimentation basins. The temporary well points and headers would be moved from section to section until the Perched Zone is dewatered.
3. The recovery rate is estimated at 20 gpm.

4.1.2 Surficial and Black Creek Aquifers

As previously mentioned, the current condition of the Surficial and Black Creek Aquifers meets the RAOs. Removal of the source area located in the Perched Zone will further reduce the contribution of PFAS to surface water. Therefore, no action is required to meet short-term RAOs for the aquifers. However, several options for capturing and treating groundwater in from these zones are presented below to further reduce the mass flux to the river.

S1. **No Action / Groundwater and Surface Water Monitoring Only:** This option will be evaluated to provide a baseline case for comparison of options and to determine if additional action at the Site is warranted. This option involves annual GW monitoring of select points. Except for groundwater monitoring, no work is proposed under this alternative. As with the Perched Zone, this option includes 30 years of groundwater monitoring at 40 wells and surface water points across the site.

S2. **Pump-and-Treat from the Five Existing LTW Wells:** In this option, a 20 gallon-per-minute (gpm) treatment system would be constructed, and pumps would be installed in the five existing LTW wells (Figure 7) to extract groundwater for treatment.

The following scope of work is proposed:

1. Construct 20 gpm groundwater treatment plant.
2. Install conduit and piping to LTW wells.
3. Install pumps in the LTW wells.

S3. **Pump-and-Treat with Vertical Recovery Wells:** In this option, 60 vertical recovery wells will be installed along the top of the bluff east of the Nafion™ area to a depth of approximately 120 feet. These wells will be used to recover groundwater from the two zones for treatment (Figure 8).

The following scope of work is proposed:

1. Construct 140 gpm groundwater treatment plant.
2. Install 60 vertical recovery wells to approximately 120 feet below grade. The wells would be screened to recover groundwater from both aquifers.
3. Install piping and conduit.

S4. **Pump-and-Treat with Horizontal Recovery Wells:** Two horizontal wells (one in the Black Creek Aquifer and one in the Surficial Aquifer) would be used to extract groundwater for treatment. The two horizontal wells would be installed one on top of the other roughly in the same area as the line of proposed vertical recovery wells (Figure 8).

The following scope of work is proposed:

1. Construct 140 gpm groundwater treatment plant.
2. Install two 4,000 LF horizontal recovery wells (one in each aquifer).
3. Install piping and conduit.

S5. **Sheet Pile Wall with Upflow Side Groundwater Management:** A sheet pile system would be installed parallel to the river with a groundwater recovery

system on the upgradient side to capture groundwater flow for treatment (Figure 9).

The following scope of work is proposed:

1. Construct 140 gpm groundwater treatment plant.
2. Install 6,000 LF sheet pile wall with upflow groundwater capture system.
3. Install piping and conduit.

S6. **Permeable Reactive Barrier Wall (PRB):** A PRB wall (carbon or organoclay) would be installed to intercept water in the two aquifers before it reaches the river. The PRB would be installed in approximately the same area as the sheet pile wall proposed under option S5 (Figure 9). The system performance would be monitored under a long-term monitoring program.

4.1.3 Former Outfall No. 002 Channel

As previously mentioned, By March 30, 2018, Chemours expects to select a remedial option for the channel and submit a schedule for its expeditious design and implementation. The anticipated remedial option will consist of lining and/or piping the channel to limit Perched Zone infiltration. It bears noting that river water concentrations downstream do not currently exceed 140 ppt. Chemours is collecting additional data required to determine how best to address the former Outfall 002 discharge channel before proposing final remedial actions to NCDEQ. Samples have already been collected at several locations along this channel to inform the remedial design.

The following remedial alternatives were considered when making this selection:

F1. **No Action / Groundwater and Surface Water Monitoring Only:** This option is evaluated to provide a baseline case for comparison of options and to determine if additional action at the Site is warranted. This option involves annual GW monitoring of select points. Except for groundwater monitoring, no work is proposed under this alternative. As with the Perched Zone, this option includes 30 years of groundwater monitoring at 40 wells across the site. All subsequent options will include some level of groundwater monitoring.

F2. **Line Channel:** This proposal includes stream restoration and lining activities for the ditch leading to Old Outfall No. 002 (Figure 10). This will reduce or eliminate the groundwater seeps discharging to the ditch. The following scope of work is proposed:

1. Clear and grub the channel and install erosion controls.
2. Prepare channel subgrade and install liner.
3. Install gabion blanket on top of liner to keep it in place and prevent erosion.
4. Restore area.

F3. **Pipe Flow:** This proposal includes installing an underground storm drain to carry the stormwater flow currently carried by the ditch (Figure 11). The existing ditch would then be filled in and closed in place. This will eliminate the groundwater seeps discharging to the ditch. The following scope of work is proposed:

1. Clear and grub the path for new pipe and install erosion controls.
2. Excavate and install new double walled HDPE pipe.

3. Backfill existing channel with spoil material from pipe installation.
4. Restore area.

F4. **Capture Water for Treatment:** In this option, a concrete sump would be constructed near the Former Outfall No. 002 location. Water captured by the sump would be pumped to a groundwater treatment system (Figure 12). The system would be sized to handle the initial flow from storm events, but large storm flows would be allowed to overflow and bypass the treatment system.

1. Clear and grub the treatment plant area.
2. Construct a 500 gpm treatment system (carbon, organoclay or combination of the two).
3. Construct cofferdam at sump location and dewater.
4. Construct 25' x 25' x 25' concrete sump.
5. Install submersible pumps and transfer piping.
6. Plant Startup.
7. Restore area.

Sample have already been collected at several locations along this channel to inform the remedial design. Chemours will fully assess each of these options, in consultation with NCDEQ, and will provide NCDEQ with a proposed remedial option by March 30, 2018 along with a schedule for expeditious implementation.

4.1.4 Air Emissions:

In consultation with NCDEQ and in recognition of the available information suggesting that air emissions from the facility are impacting surrounding soil and groundwater via deposition, Chemours is undertaking a comprehensive program to identify, evaluate, and abate PFAS air emissions at Fayetteville Works (in the short-term and longer-term). The specific abatement measures to be taken are beyond the scope of this report.

4.2 Screening of Preliminary Remedial Alternatives

The remedial alternatives listed above were screened based on the following criteria:

- Technical Implementability
- Effectiveness
- Administrative Feasibility
- Reduction of toxicity, mobility, or volume
- Cost (relative/qualitative)

Technical implementability considers whether there are technical limitations that would preclude a technology from further consideration. Examples of these limitations are geologic or hydrogeologic conditions (e.g., a formation may not be amenable to effectively applying technologies requiring injections), depth of impact, type of constituents or the presence of limiting constituents (e.g., metals or conditions toxic to bacteria). The options have been ranked for implementability as high, medium, or low. High means that there are no technical limitations, medium indicates that there may be some limitations and challenges, while low indicates that there are significant technical barriers to implementation of the technology.

The effectiveness of each alternative was evaluated based on four factors: ability to meet remedial goals, protection of people and the environment, whether the technology is proven or emerging, and reliability. The evaluation of administrative feasibility covers such items as the ability to obtain permits, the availability of resources (e.g., space, power, backfill, or other utilities), and the availability of contractors or other suppliers required to perform the work.

The technologies were screened based on the relative capital and operations and maintenance (O&M) costs for each technology. A detailed analysis was not performed, but the technologies were evaluated as high, moderate, or low relative to the other process options.

The results of the screening are discussed in the subsections below and Table 1 summarizes the screening of the technologies based on these factors.

4.2.1 Perched Zone (Including Nafion™ Ditch and Sediment Basins)

Technical Implementability

There are no technical limitations precluding any of the proposed Perched Zone remedial alternatives, and all the technologies are appropriate for treating PFAS. The impacted groundwater is relatively shallow and accessible. The geology and hydrogeology at the Site do not present obstacles to any of the proposed treatment options.

Option P4 has the most significant implementability concerns. The area west of the Nafion™ area is more developed, and the presence of underground utilities may complicate the installation of the trench.

Effectiveness

All the technologies meet the effectiveness criteria.

Administrative Feasibility

There are no administrative limitations for any of the options. Some options considered might need specific permits (e.g., injection or discharge permits); however, none of these permits are expected to be exceptionally difficult to obtain.

Reduction of toxicity, mobility, or volume

Option P1 has no effect on the toxicity, mobility, or volume of PFAS at the Site. Option P2 reduces the mobility of PFAS in the Perched Zone by eliminating much of the recharge to this zone; but it does not reduce the toxicity or volume of the existing material. Options P3 through P6 reduce the mobility and volume, but none of them reduce the toxicity.

Cost

See Table 1 for relative cost assessments.

Summary

All the technologies meet the screening criteria at the Site. However, lining the ponds followed by use of a temporary dewatering system appears to be the best alternative for meeting the remedial objectives in this zone (Option P6).

4.2.2 Surficial and Black Creek Aquifers

Technical Implementability

There are significant technical issues with Option S2 (pumping from the existing LTW wells). First, these wells are located very close to the river and any treatment system would need to be installed at the top of the bluff to protect the equipment from flooding. Second, the wells are spaced too far apart to provide complete capture. Third, the wells are too close to the river, which would cause capture of a significant quantity of river water as opposed to water from the aquifers. Finally, the wells are screened in the Black Creek Aquifer and would do little to capture water from the Surficial Aquifer.

There are no technical limitations precluding any of the remaining proposed remedial alternatives for this zone, and all the technologies are appropriate for treating PFAS. However, the impacted groundwater is relatively deep. The geology and hydrogeology at the Site do not present obstacles to any of the proposed treatment options.

Effectiveness

All the technologies except Option S2 meet the effectiveness criteria. Option S2 only captures water from the Black Creek Aquifer and may capture more river water than aquifer groundwater.

Administrative Feasibility

There are no administrative limitations for any of the options. Some of the options considered might need specific permits (e.g., injection or discharge permits); however, none of these permits are expected to be exceptionally difficult to obtain.

Reduction of toxicity, mobility, or volume

Option S1 has no effect on the toxicity, mobility, or volume of PFAS at the Site. The remaining options reduce the mobility and volume, but none of them reduce the toxicity.

Cost

See Table 1 for relative cost assessments.

Summary

Due to implementation and effectiveness concerns, Option S2 does not meet the criteria for further consideration at the Site. All other options meet the screening criteria. However, remediation of the Perched Zone will remove the source feeding the Surficial and Black Creek Aquifers and it is expected that this action will reduce or eliminate the need for active remediation of the lower aquifers. Therefore, it is proposed that monitoring be conducted following the Perched Zone remediation (Option S1).

4.2.3 Old Outfall 002

Technical Implementability

Except for the No Action option, there are expected to be significant implementability issues with all the proposed options. These are mostly related to the poor condition of the existing channel, steep slopes, and the need for remote dewatering operations to facilitate construction. However, none of these is believed to be insurmountable based on the current available information.

Effectiveness

All the technologies meet the effectiveness criteria, although maintenance of a lined channel would present problems due to the steep slopes.

Administrative Feasibility

There are no administrative limitations for any of the options. Some of the options considered might need specific permits (e.g., injection or discharge permits); however, none of these permits are expected to be exceptionally difficult to obtain.

Reduction of toxicity, mobility, or volume

Option F1 has no effect on the toxicity, mobility, or volume of PFAS at the Site. Options F2 and F3 reduce the mobility, but not the volume or toxicity. Option F4 reduces the mobility and volume, but not the toxicity.

Cost

See Table 1 for relative cost assessments.

Summary

All the technologies meet the screening criteria for further consideration at the Site. Based on the currently available data, lining the ditch appears to best alternative for meeting the remedial objectives related to this former outfall. However, due to the need to gather additional data to guide this effort, Chemours proposes to follow an adaptive approach of collecting the necessary additional data to determine the actual source of water in the outfall channel and review multiple technologies that might be applied to address this discharge.

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5.0 PATH FORWARD

Based on the detailed analysis of alternatives, the following conclusions have been made regarding the options presented herein. All the actions identified below are subject to further revision based on design, feasibility, schedule, and cost.

- Perched Zone: Pumping the Perched Zone and lining the ponds followed by use of a temporary dewatering system appears to be the best alternative for meeting the remedial objectives in this zone (Option P6).
  - By March 15, 2018, begin to pump water from the Perched Zone, which the sampling and analytical data have shown to be the subsurface zone with by far the greatest concentrations of HFPO-DA and other PFAS, and a source of groundwater contamination through infiltration of other zones. The pumped water will be containerized for off-site disposal until suitable treatment technology can be installed on-site.
  - *Sedimentation Basins:* For the two surface impoundments used to collect sediment generated during the filtration and clarification of intake water to be used at the facility from the Cape Fear River, sequentially empty and line each basin with a high quality synthetic liner. The design work for this project is already underway.
  - *Nafion™ ditch*: Excavate contaminated materials in the bottom of the ditch and line it with a HDPE (or similar) liner.
  - *Remove contaminated soils near the NafionTM ditch and dispose of them offsite.*
- Surficial and Black Creek Aquifers: Remediation of the Perched Zone will remove the source feeding the Surficial and Black Creek Aquifers and it is expected that this action will reduce or eliminate the need for active remediation of the lower aquifers. Therefore, it is proposed that monitoring be conducted following the Perched Zone remediation (Option S1).
- Old Outfall No. 002: Based on the currently available data, lining and/or piping the ditch appears to best alternative for meeting the remedial objectives related to this former outfall. However, additional data is required to confirm this choice. Chemours will fully assess each option, in consultation with NCDEQ, and will provide NCDEQ with a proposed remedial option by March 30, 2018, along with a schedule for expeditious implementation.
- Air Emissions: Continue the program already underway and in consultations with NCDEQ to identify, evaluate, and abate (in the short-term and longer-term), PFAS air emissions at Fayetteville Works.

To confirm the effectiveness of each of these alternatives and to progress their designs, additional data is required. An outline of the path forward is presented below:

- Conduct a detailed land survey of the ponds and drainage channel to Old Outfall no. 002.
- Collect sediment samples from the sedimentation basins in order to determine disposal options.
- Conduct treatability study to determine the suitability of organoclay for treating PFAS alone or in combination with GAC.
- Prepare detailed design for each alternative.

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6.0 REFERENCES

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Leab R. J. Soil survey of Bladen County, North Carolina. United States Soil Conservation Service; Washington, DC: 1990. 179

Parsons, 2018. Carbon Implementation Plan – Chemours Fayetteville. Letter from Chemours to Mr. Michael Scott, Director, Division of Waste Management, NCDEQ, dated January 11, 2018.

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FIGURES

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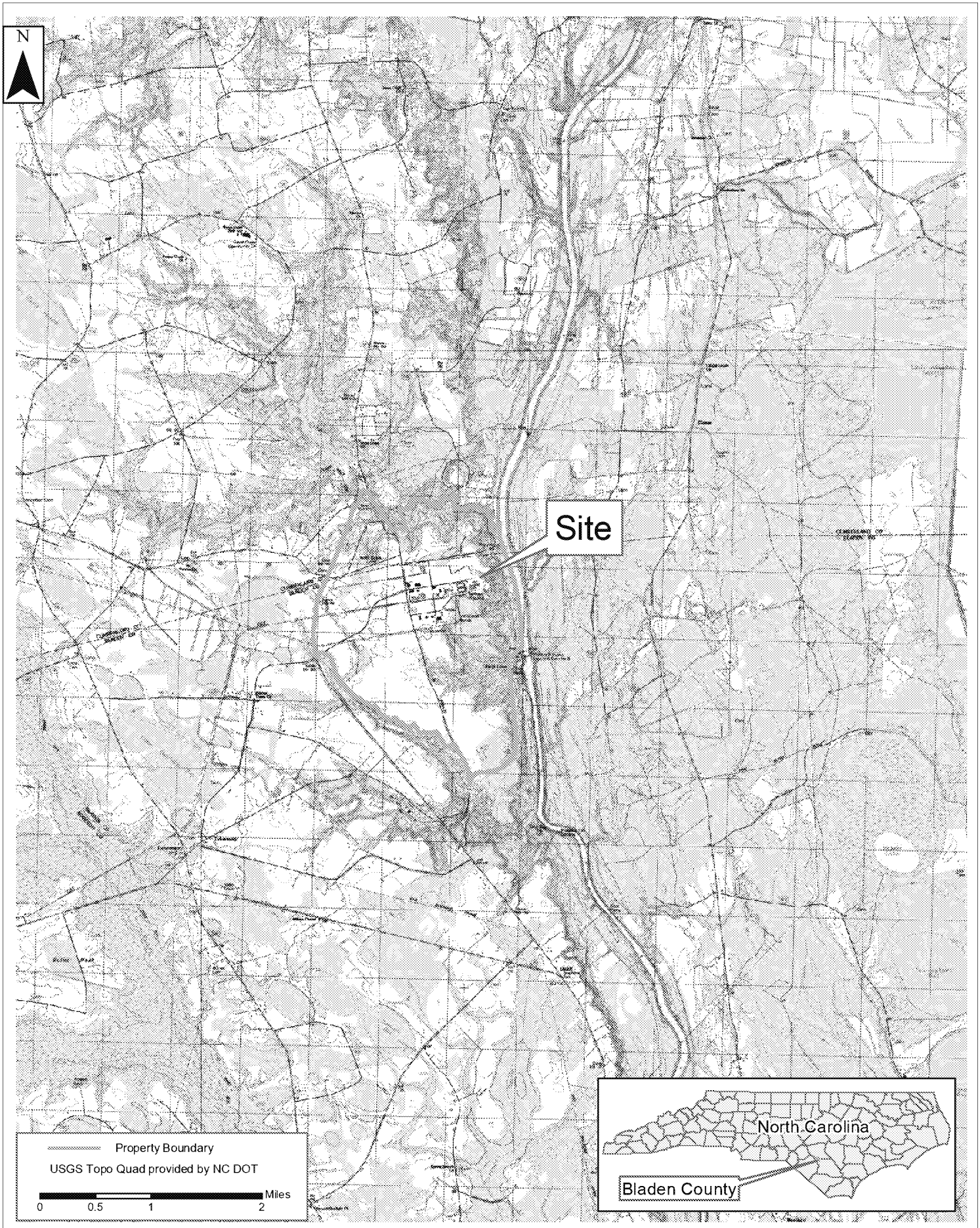

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Site Location Map
Focused Feasibility Study Report - PFAS Remediation
Chemours Fayetteville Works
Fayetteville, North Carolina

Drawn:	Date:	File Project Number:
C. Oneal	1/29/2018	450768
Revision: 1	Figure Number: 1	
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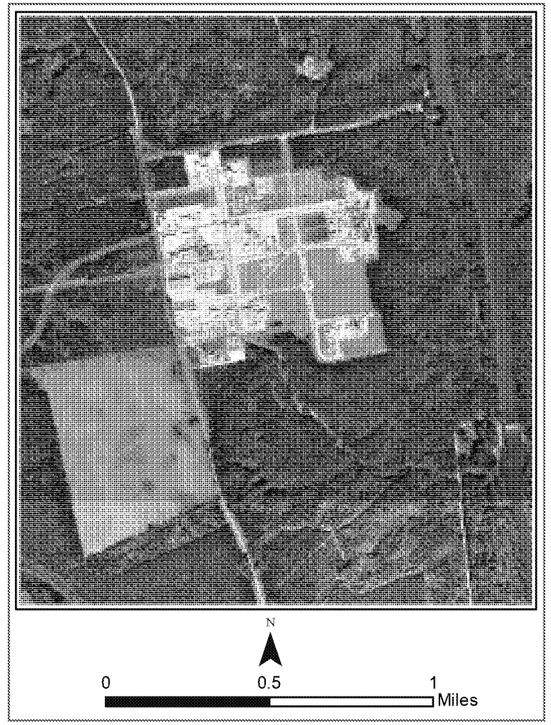

Pavement/Curb
Plant Border
Drainage Channel
River
Site Structure
SWMU

N
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Charlotte, NC 28209

Site Layout Map
Focused Feasibility Study Report - PFAS
Remediation Chemours Fayetteville Works
Fayetteville, North Carolina

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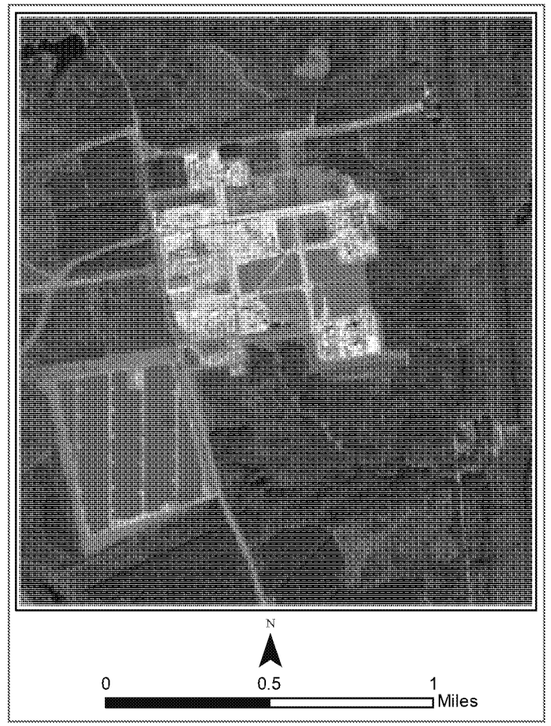

Nafion Ditch
Pavement/Curb
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Drainage Channel
River
Site Structure
SWMU

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Option P2 - Lining of Sedimentation Basins and Nafion Ditch
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Chemours Fayetteville Works
Fayetteville, North Carolina

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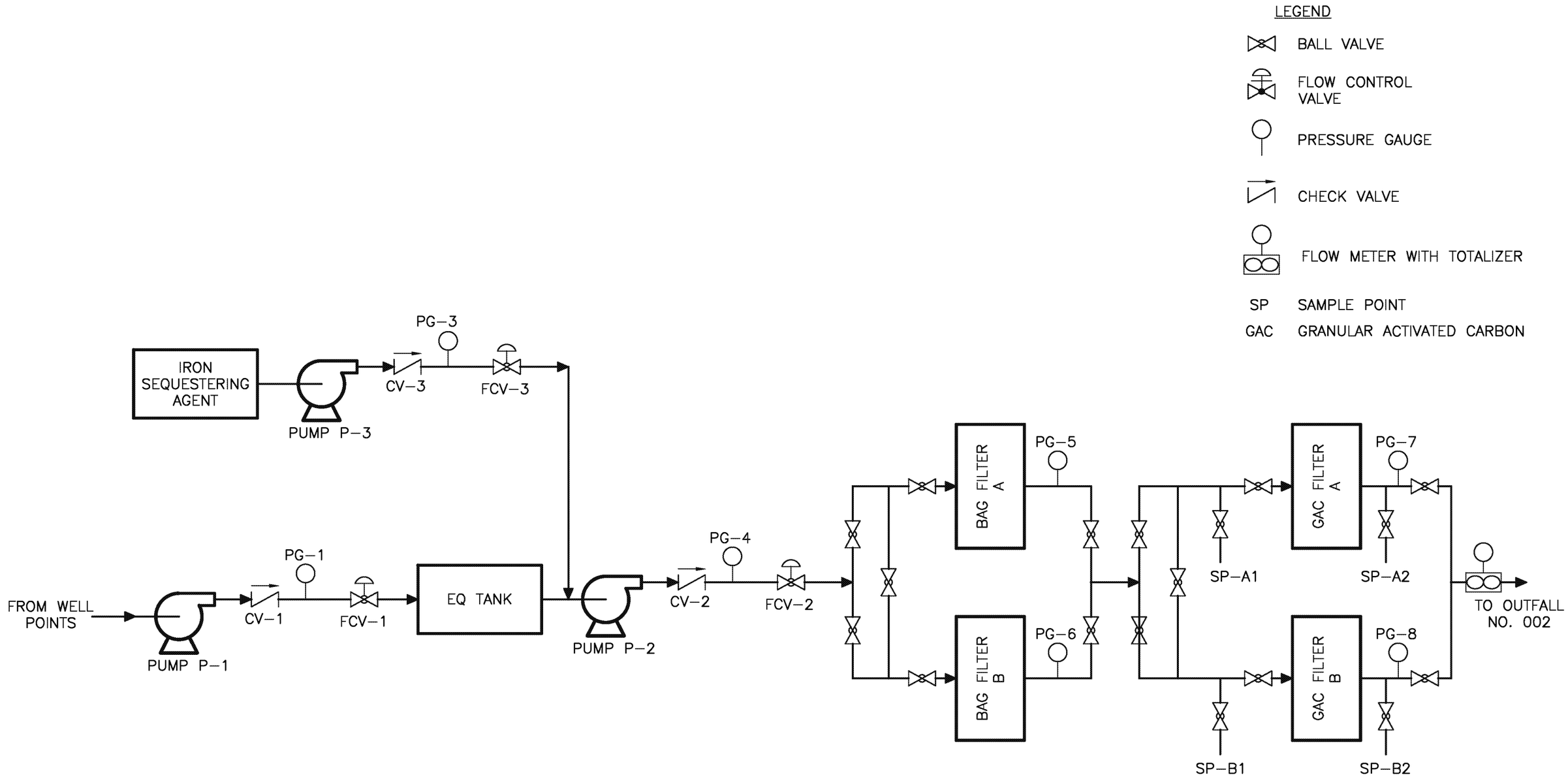

CHEMOURS
FAYETTEVILLE, NC

FIGURE 4

TREATMENT SYSTEM PROCESS FLOW DIAGRAM

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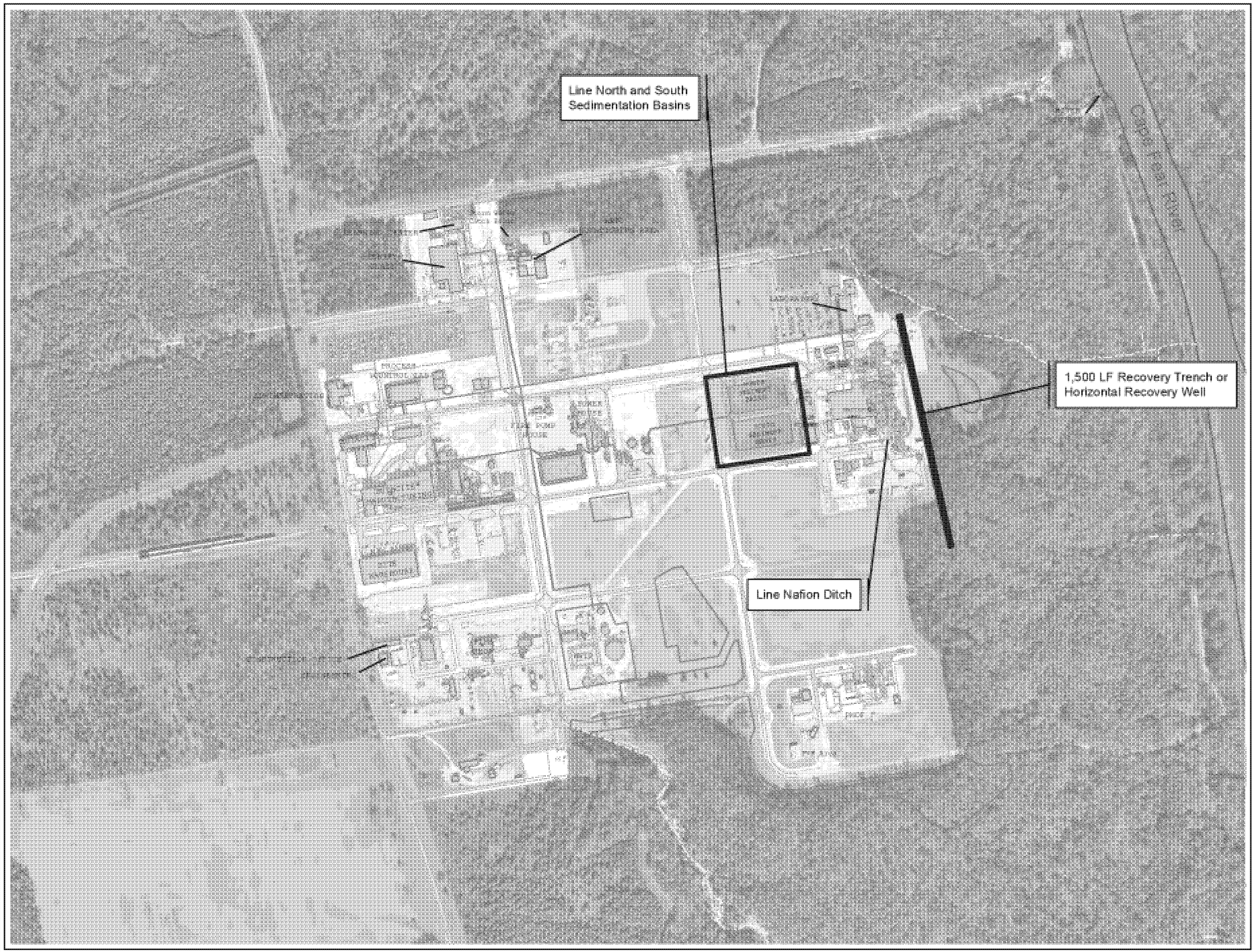

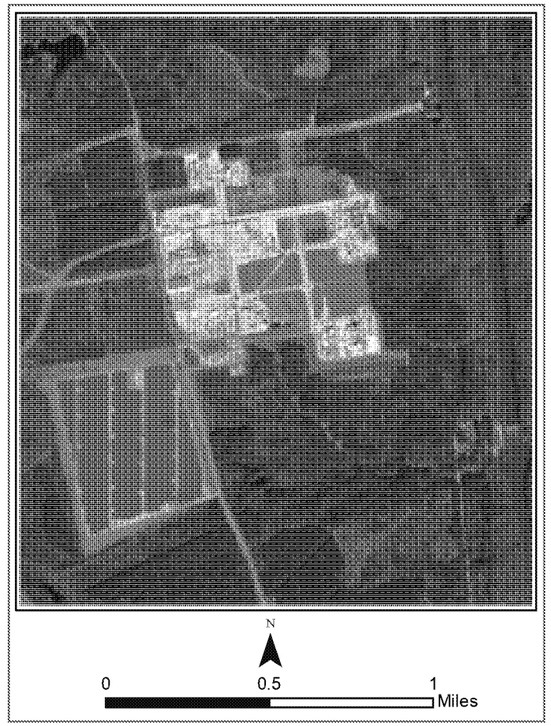

Nafion Ditch
Pavement/Curb
Plant Border
Drainage Channel
River
Site Structure
SWMU

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Options P3 (Single Recovery Trench) and P5 (Horizontal Recovery Well)
Focused Feasibility Study Report - PFAS
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Fayetteville, North Carolina

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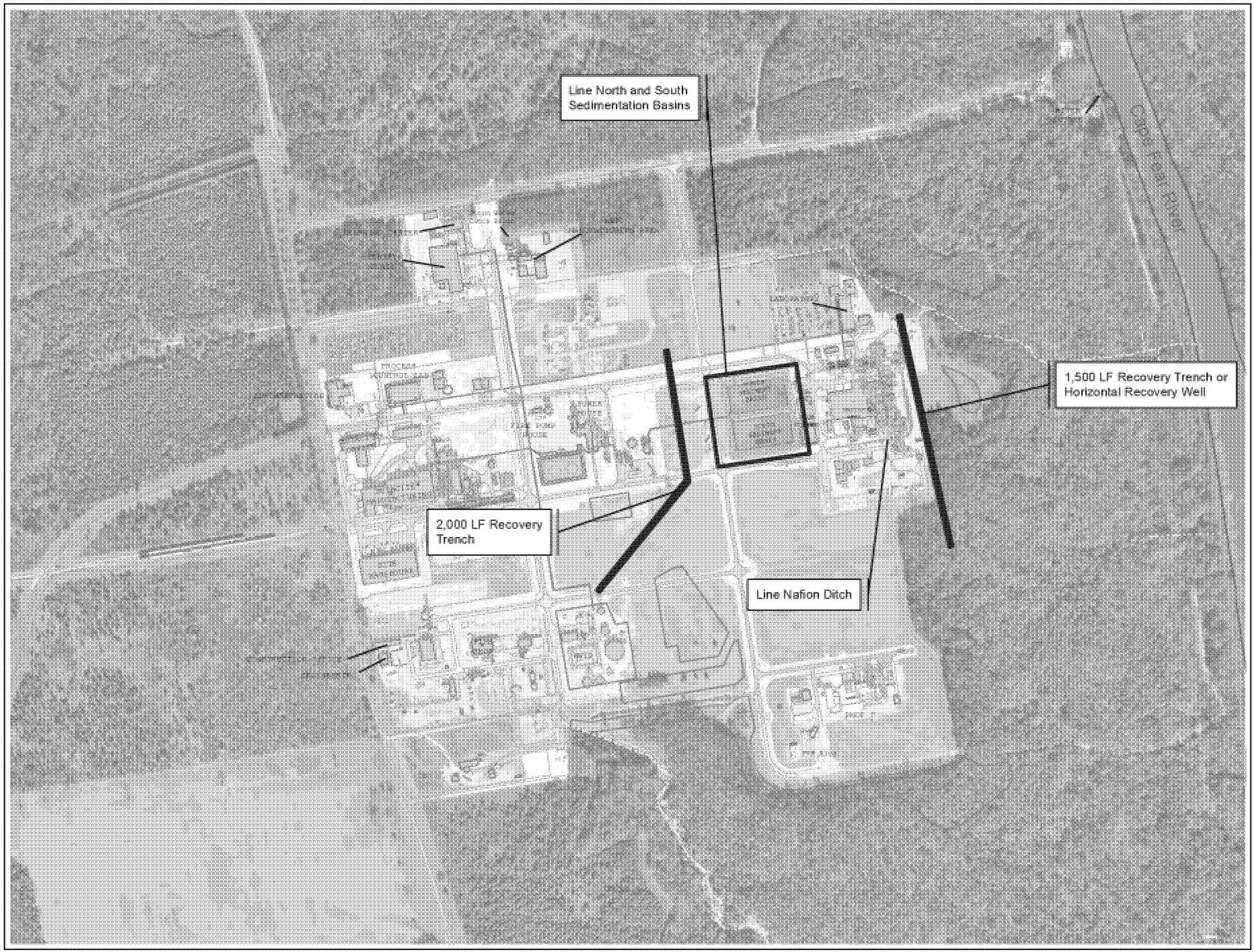

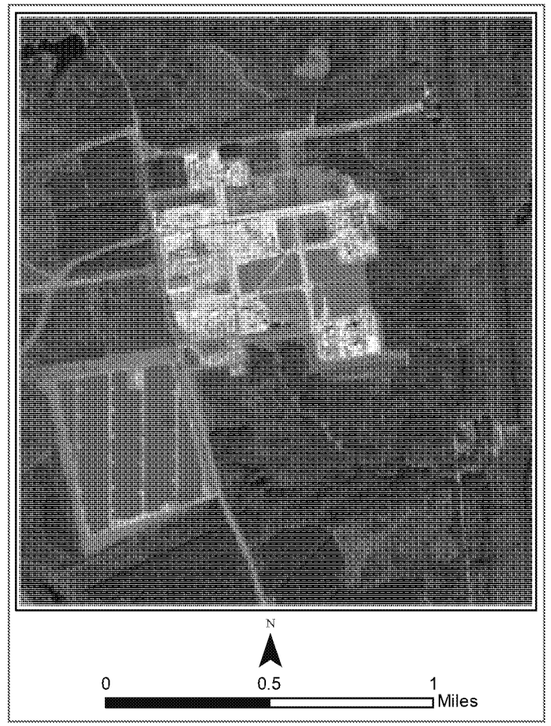

Nafion Ditch
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Plant Border
Drainage Channel
River
Site Structure
SWMU

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Option P4 - Two Recovery Trenches
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Chemours Fayetteville Works
Fayetteville, North Carolina

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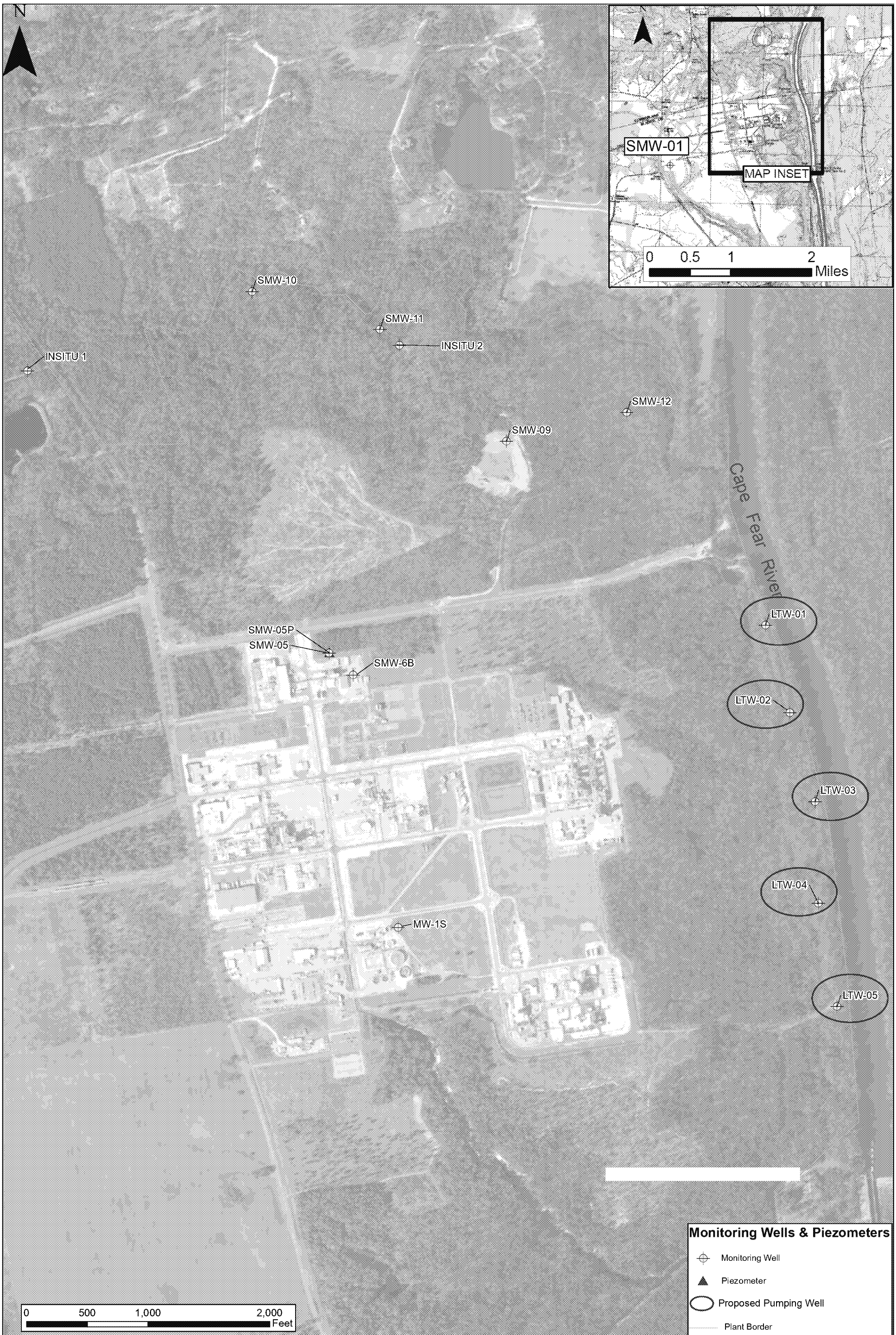

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Option S2 - Pump and Treat with Existing LTW Wells
Focused Feasibility Study Report - PFAS
Chemours Fayetteville Works
Fayetteville, North Carolina

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Date: 2/6/2014	Parsons Project Number:
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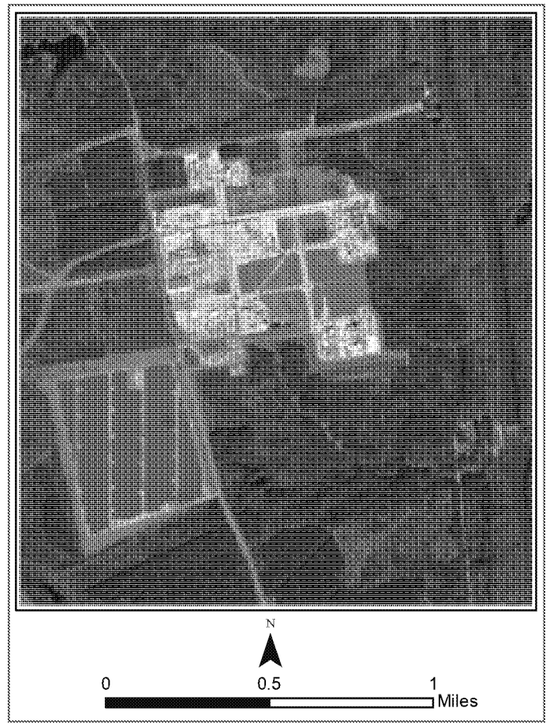

Extraction Well
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Pavement/Curb
Plant Border
Drainage Channel
River
Site Structure
SWMU

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Option S3 - Pump and Treat with Vertical Recovery Wells
Focused Feasibility Study Report - PFAS
Chemours Fayetteville Works
Fayetteville, North Carolina

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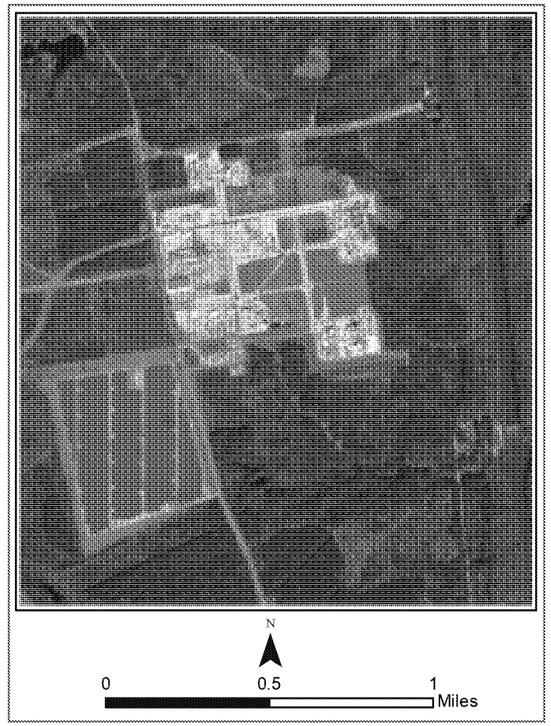

Sheet Pile Wall
Nafion Ditch
Pavement/Curb
Plant Border
Drainage Channel
River
Site Structure
SWMU

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Option S5 - Sheet Pile with Upflow Side Groundwater Management
Focused Feasibility Study Report - PFAS
Chemours Fayetteville Works
Fayetteville, North Carolina

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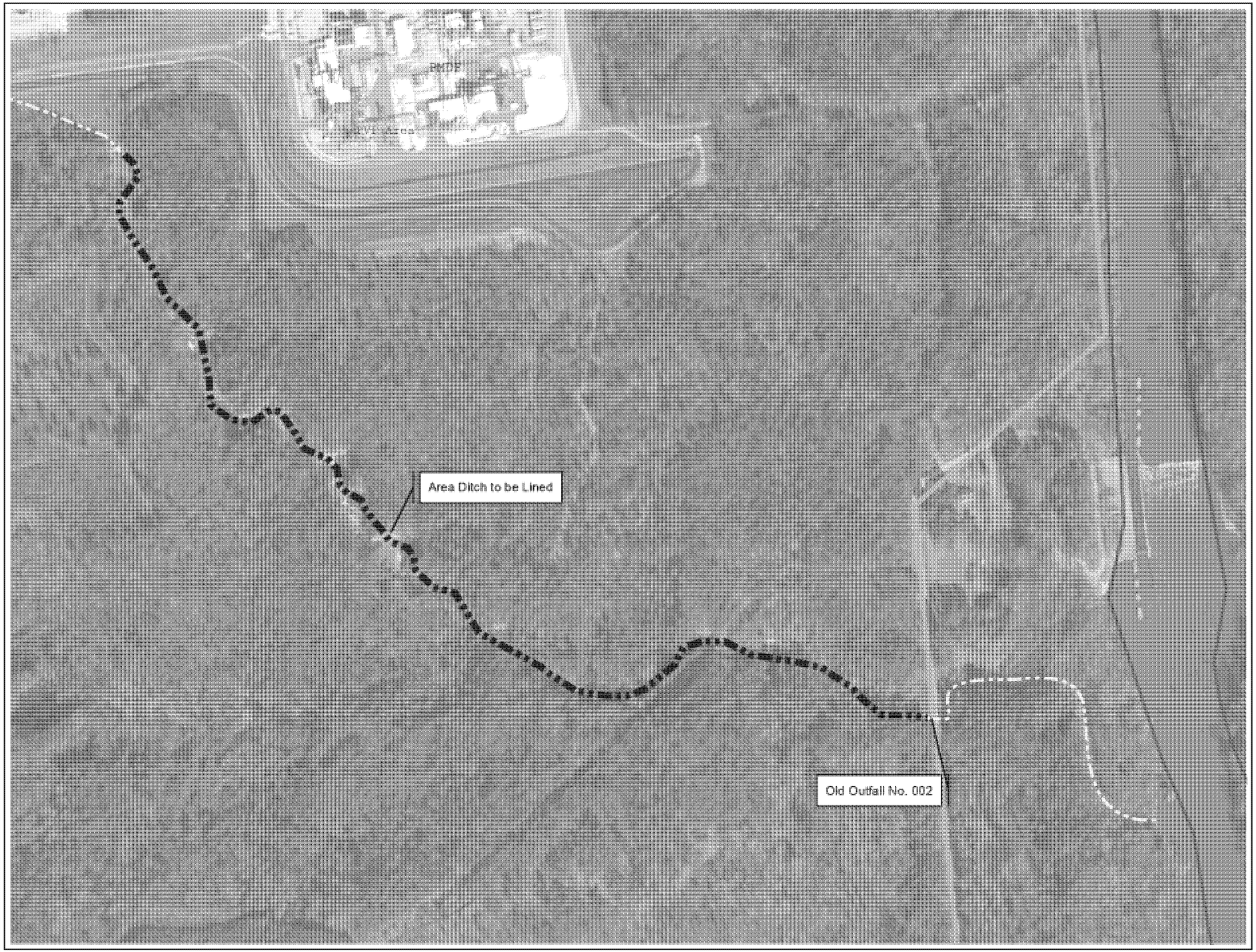

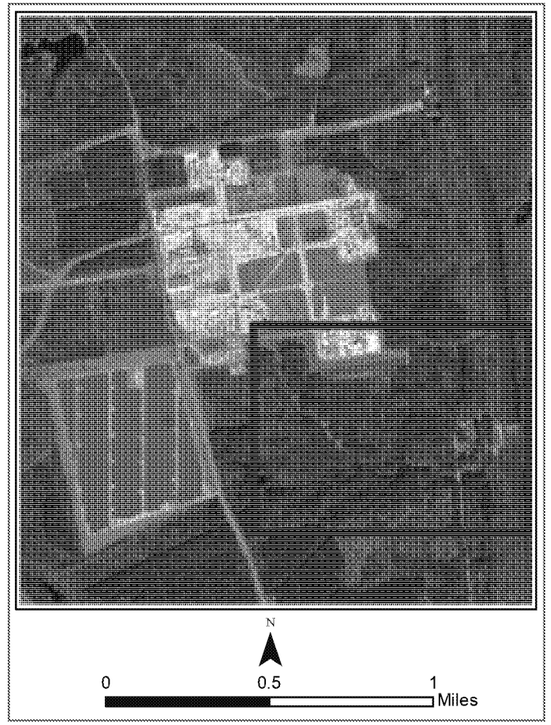

Plant Border

Drainage Channel

River

N

0 462.5 925 Feet

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Charlotte, NC 28209

Option F2 - Line Channel
Focused Feasability Study Report - PFAS
Chemours Fayetteville Works
Fayetteville, North Carolina

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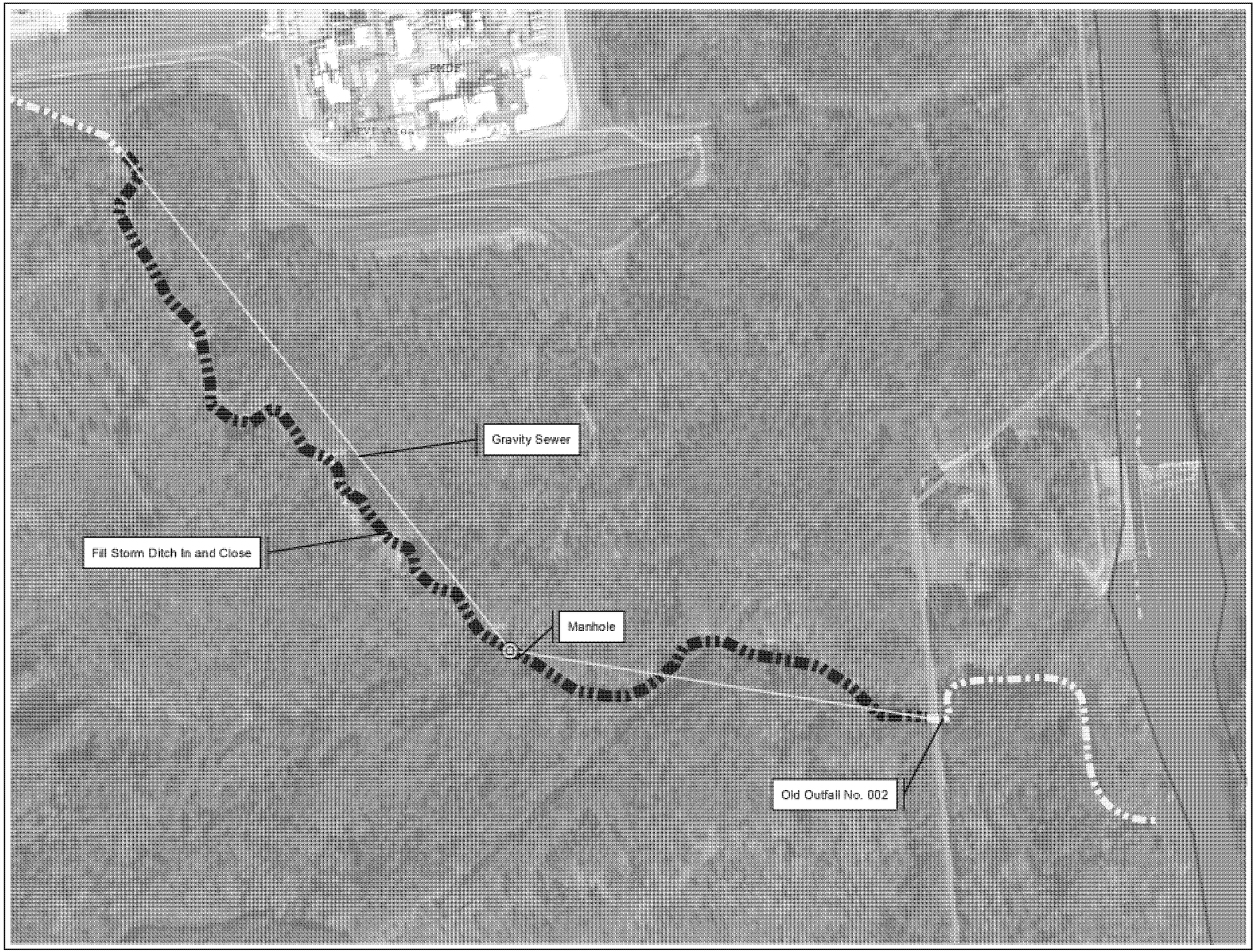

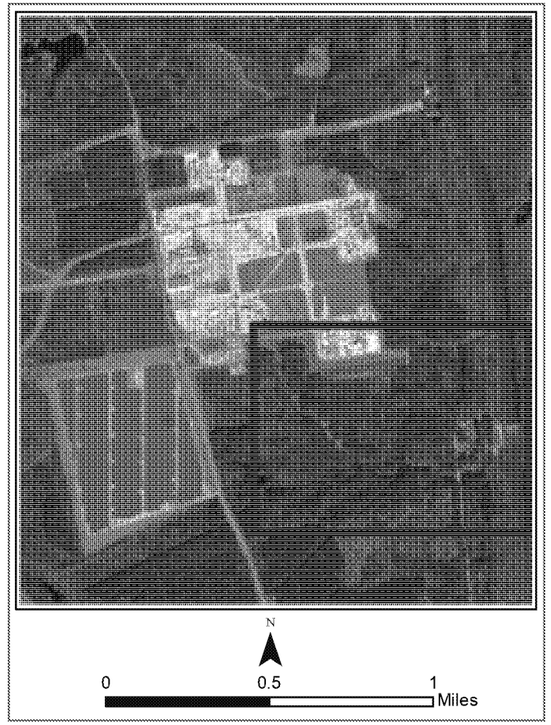

Plant Border

Drainage Channel

River

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Option F3 - Pipe Flow
Focused Feasability Study Report - PFAS
Chemours Fayetteville Works
Fayetteville, North Carolina

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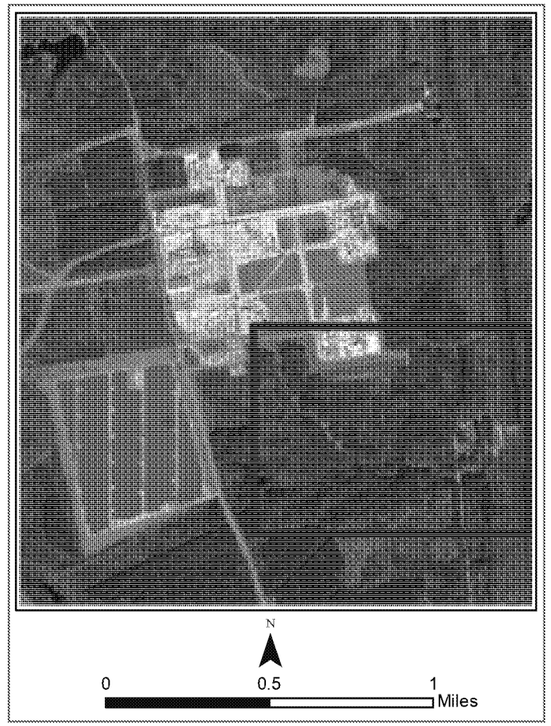

Plant Border

Drainage Channel

River

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Option F4 - Capture Water for Treatment
Focused Feasability Study Report - PFAS
Chemours Fayetteville Works
Fayetteville, North Carolina

Drawn: C. Oneal	Date: 2/19/2018	File Project Number: 449338.01050
Revision: 1	Figure Number: 12	
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TABLE

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Table 1
Remedial Alternative Screening
Chemours Fayetteville Works
Fayetteville, North Carolina

Alternative		Technical Implementability	Effectiveness						Administrative Feasibility	Reduction of Toxicity, Mobility, or Volume	Cost
			Ability to Meet Remedial Goals		Protection of Human Health & the Environment		Proven Technology	Reliability			
			Achievable	Time Required	Current	Future					
Perched Zone											
P1	No Action	High	Yes	NA	Yes	Yes	NA	NA	No Limitations	None	Low
P2	Lining of Sedimentation Basins and Nafion Ditch	High	Yes	Long	Yes	Yes	Proven	High	No Limitations	Reduces mobility, but not toxicity or volume	Moderate
P3	Single Recovery Trench and Lining Ponds	High	Yes	Long	Yes	Yes	Proven	Moderate	No Limitations	Reduces mobility and volume but not toxicity	High
P4	Two Recovery Trenches and Lining Ponds	Low	Yes	Medium	Yes	Yes	Proven	Moderate	No Limitations	Reduces mobility and volume but not toxicity	High
P5	Pump and Treat with Horizontal Recovery Well	High	Yes	Medium	Yes	Yes	Proven	Moderate	No Limitations	Reduces mobility and volume but not toxicity	High
P6	Temporary Dewatering and Pump and Treat System	High	Yes	Short	Yes	Yes	Proven	High	No Limitations	Reduces mobility and volume but not toxicity	High
Surficial and Black Creek Aquifers											
S1	No Action	High	Yes	NA	Yes	Yes	NA	NA	No Limitations	None	Low
S2	Pump and Treat from the 5 Existing LTW Wells	Low	No	NA	Yes	Yes	Proven	Moderate	No Limitations	Reduces mobility and volume but not toxicity	Low
S3	Pump and Treat with Vertical Recovery Wells	High	Yes	Medium	Yes	Yes	Proven	Moderate	No Limitations	Reduces mobility and volume but not toxicity	High
S4	Pump and Treat with Horizontal Recovery Wells	High	Yes	Medium	Yes	Yes	Proven	Moderate	No Limitations	Reduces mobility and volume but not toxicity	Moderate
S5	Sheet Pile Wall with Upflow Groundwater Mgt.	Medium	Yes	Medium	Yes	Yes	Proven	Moderate	No Limitations	Reduces mobility and volume but not toxicity	High
S6	Permeable Reactive Barier (PRB) Wall	Medium	Yes	Medium	Yes	Yes	Proven	High	No Limitations	Reduces mobility and volume but not toxicity	Moderate
Former Outfall 002											
F1	No Action	High	Yes	NA	Yes	Yes	NA	NA	No Limitations	None	Low
F2	Lining of the Channel	Medium	Yes	Short	Yes	Yes	Proven	Moderate	No Limitations	Reduces mobility, but not toxicity or volume	Moderate
F3	Pipe Flow	Medium	Yes	Short	Yes	Yes	Proven	High	No Limitations	Reduces mobility, but not toxicity or volume	Moderate
F4	Capture Water for Treatment	Medium	Yes	Medium	Yes	Yes	Proven	Moderate	No Limitations	Reduces mobility and volume but not toxicity	High

APPENDIX A
MASS FLUX ASSESSMENT

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Geosyntec consultants

CAPE FEAR RIVER DIMER ACID CONCENTRATION AND MASS FLUX ASSESSMENT SUMMARY

Dimer Acid is present in the Cape Fear River (the river) down river of the Chemours Fayetteville Works Site (the Site). Dimer Acid river concentrations are controlled by Dimer Acid mass flux to the river and the volume of water flowing in the river. An assessment of Dimer Acid mass flux in the river was performed to achieve the following objectives:

- Identify potential pathways for Dimer Acid to reach the river;
- Evaluate the mass flux contributions from each potential pathway; and
- Estimate future concentrations of Dimer Acid in the river by preparing an analytical model.

The objectives listed above build upon each other and were thus fulfilled sequentially. The paragraphs below describe how each objective was fulfilled, and the observations obtained from each objective.

Identify Potential Pathways

Potential pathways for Dimer Acid to reach the river were identified by reviewing Site cross sections, Site aerial imagery, Site data and discussions with Chemours personnel. Identified potential pathways are listed below and are graphically represented in the conceptual image presented in Figure 1:

- The up-stream river;
- Willis Creek;
- Direct aerial deposition to the river;
- Outfall 002;
- On-Site upwelling groundwater;
- Surface water runoff;
- Flow in the historic outfall channel;
- Off-Site (up- and down-river) upwelling groundwater; and
- Georgia Branch Creek.

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Evaluate Mass Flux Contributions

The mass flux reaching the river is the combined mass per unit time (e.g. nanograms per second) from each identified potential pathway listed above. For mass transported by water (e.g. groundwater, surface water, outfalls) mass flux is calculated by multiplying the volumetric flow of the water (e.g. liters per second) by the concentration of Dimer Acid in the water (e.g. nanograms per liter; ng/L). Mass flux for each potential pathway was estimated using Site data, and representative physical properties where Site data were unavailable. The mass flux assessment was prepared and compared to Site data. This included data collected as part of a surface water sampling event conducted on 26-27 September 2017. Sample collection dates for data used to quantify each pathway are presented in Table 1.

The data used to quantify the mass flux for each pathway and the results of the assessment are presented in Table 2. The results are compared against the average, down-river Dimer Acid concentration from the 26-27 September 2017 sampling event, 39.25 ng/L. The mass flux assessment estimated that the combined mass flux contributions to the river would result in a Dimer Acid concentration ranging from 26 to 64 ng/L, (i.e. 66% to 160%) of observed Dimer Acid on 26-27 September. The two largest contributors of Dimer Acid mass flux were first upwelling Site groundwater and second the Historic Outfall. Upwelling groundwater was estimated to potentially contribute between 12 to 47 ng/L, (i.e. 30% to 120%) of observed Dimer Acid in the river. The Historic Outfall, using data from 16 January 2017, was estimated to contributed 9 ng/L (i.e. 23%) to observed river concentrations.

It should be noted that upwelling groundwater mass flux estimates have more uncertainty than any of the mass flux estimates for the outfalls or creeks. This is because the groundwater mass flux estimates are based on measured concentrations and calculated (estimated) flow, while for creeks and outfalls both concentrations and flow were measured. Consequently, a second approach was used to estimate upwelling groundwater contributions to in-river Dimer Acid concentrations. The second approach estimated these contributions by subtracting all other mass flux contributions from the observed river concentrations. Based on this assessment upwelling groundwater was estimated to contribute between 22.5 to 26 ng/L (i.e. 57% to 66%) of Dimer Acid concentrations observed in the river, which is within the range of the previous estimate.

ED_002003F_00005943-00058

Estimate Future River Dimer Acid Concentrations

An analytical river mass flux model was created to estimate future river Dimer Acid concentrations. The model estimated both Dimer Acid: i) concentrations in the river; and ii) travel times in river water. Specifically travel times are estimated for the down-stream public utility water intakes at Bladen Bluffs, 7.5 miles down-river, and Kings Bluff Intake Canal, 55 miles down-river. The model was created in Microsoft Excel using the following data sources:

i. Input mass fluxes from the mass flux assessment;

ii. Outfall 002 concentration and flow data provided by Chemours to calculate Outfall 002 mass flux for specific dates; and

iii. Daily mean river volumetric flow data and gauge height data reported by United States Geological Survey (USGS) for the W.O. Huske Dam gauging station.

The model operates by first estimating mass flux inputs into the river for a given date using the approach described for the mass flux assessment. Model calculations are only performed for dates where measured Outfall 002 concentration and flow data exist. The concentration of Dimer Acid in the river is then calculated by dividing the mass flux (e.g. nanograms per second) by the USGS reported river flow rate (e.g. liters per second). Next the arrival time of this water at the down-river intakes is estimated using the estimated river water velocity. River water velocities were estimated by calculating how quickly the measured volumetric flow of water must pass through the estimated cross-sectional area of the river. River cross sectional areas were estimated using river gauging data from the 26 to 27 September 2017 sampling event and USGS reported river gauge heights.

River mass flux model results using input data from 14 June 2017 to 29 January 2018 are presented in Figure 2 for Bladen Bluffs and Figure 3 for Kings Bluff Intake Canal. In each figure the modeled results are compared to publicly reported, measured river concentrations. The river mass flux model results show a good fit compared to observed river Dimer Acid concentrations at the two down-river water intake locations.

Since 1 August 2017 river concentrations have been measured to be less than 140 ng/L except for the temporary increase in early October 2017, which matches the model results. The increase in October 2017 was related to a temporary increase in Outfall 002 concentrations and mass flux. Assuming standard operating conditions at the Site and similar environmental conditions, future river concentrations are estimated to remain below 140 ng/L.

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TABLE 1
POTENTIAL DIMER ACID PATHWAYS TO CAPE FEAR RIVER AND DATA SOURCES FOR ASSESSMENT
Chemours Fayetteville Works

Pathway	Concentration Data	Flow Data
Up-Stream River	26-27 Sept. 2017 Data	26-27 Sept. 2017 Data
Willis Creek	26-27 Sept. 2017 Data	16 Jan. 2018 Data
Aerial Deposition on River	Estimated from NCDEQ Air Dispersion Modelling	
Outfall 002	26-27 Sept. 2017 Data	26-27 Sept. 2017 Data
On-Site Groundwater	26-27 Sept. 2017 Data	Calculated
Surface Water Run-Off	Inferred. No Rain.	Inferred. No Rain.
Historic Outfall Channel	16 Jan. 2018 Data	16 Jan. 2018 Data
Off-Site Groundwater (Up & Down River)	Residential Well Data	Calculated
Georgia Branch Creek	26-27 Sept. 2017 Data	16 Jan. 2018 Data

TABLE 2
POTENTIAL PATHWAY ESTIMATED DIMER ACID MASS FLUXES COMPARED TO MEASURED RIVER CONCENTRATIONS
Chemours Fayetteville Works

Potential Pathway	Concentration (ng/L)	Flow (L/s)	Mass Flux (ng/s)	Estimated Contribution to River Concentration (ng/L)
Up-Stream River	0	25,500	0	0
Willis Creek	310 – 450	170 – 250	52,700 - 112,500	2.0 - 4.5
Aerial Deposition on River[1]	--	--	6,000	0.25
Outfall 002	35	900	31,500	1.25
On-Site Groundwater[2]	25,000 – 50,000	12 – 24	300,000 – 1,200,00	12 – 47
Surface Water Run-Off[3]	NA	NA	0	0
Historic Outfall	8,400	27	227,000	9
Off-Site Groundwater (Up & Down River)[4]	147 – 179	110 – 180	16,000 - 32,250	0.5 - 1.25
Georgia Branch Creek	540 – 1,100	8 – 16	4,500 – 17,500	0.2 – 0.7
Total Estimated Mass Flux and Corresponding River Concentration	--	--	665,000 – 1,625,000	26 – 64
Measured[5] Concentration and Flow Down River 5 Miles and Calculated Mass Flux	39.25	25,500	1,000,000	39.25

Notes

[1] Direct aerial deposition to the river mass flux estimates were made based on NCDEQ presented modelling results. https://www.ncleg.net/documentsites/committees/house2017-185/Meetings/3%20-%20Nov%2030%202017/DEQ%20Final%20PowerPoint%20Pres.pdf

[2] On-Site groundwater flux range estimated assuming discharge areas of 18,500 to 37,000 square meters, calculated gradient of 0.064 between LTW Wells to Cape Fear River, measured maximum and average LTW Well concentrations of 50,000 and of to 25,000 ng/L, and a estimated hydraulic conductivity of 10^{-5} m/s, representative of silty sand.

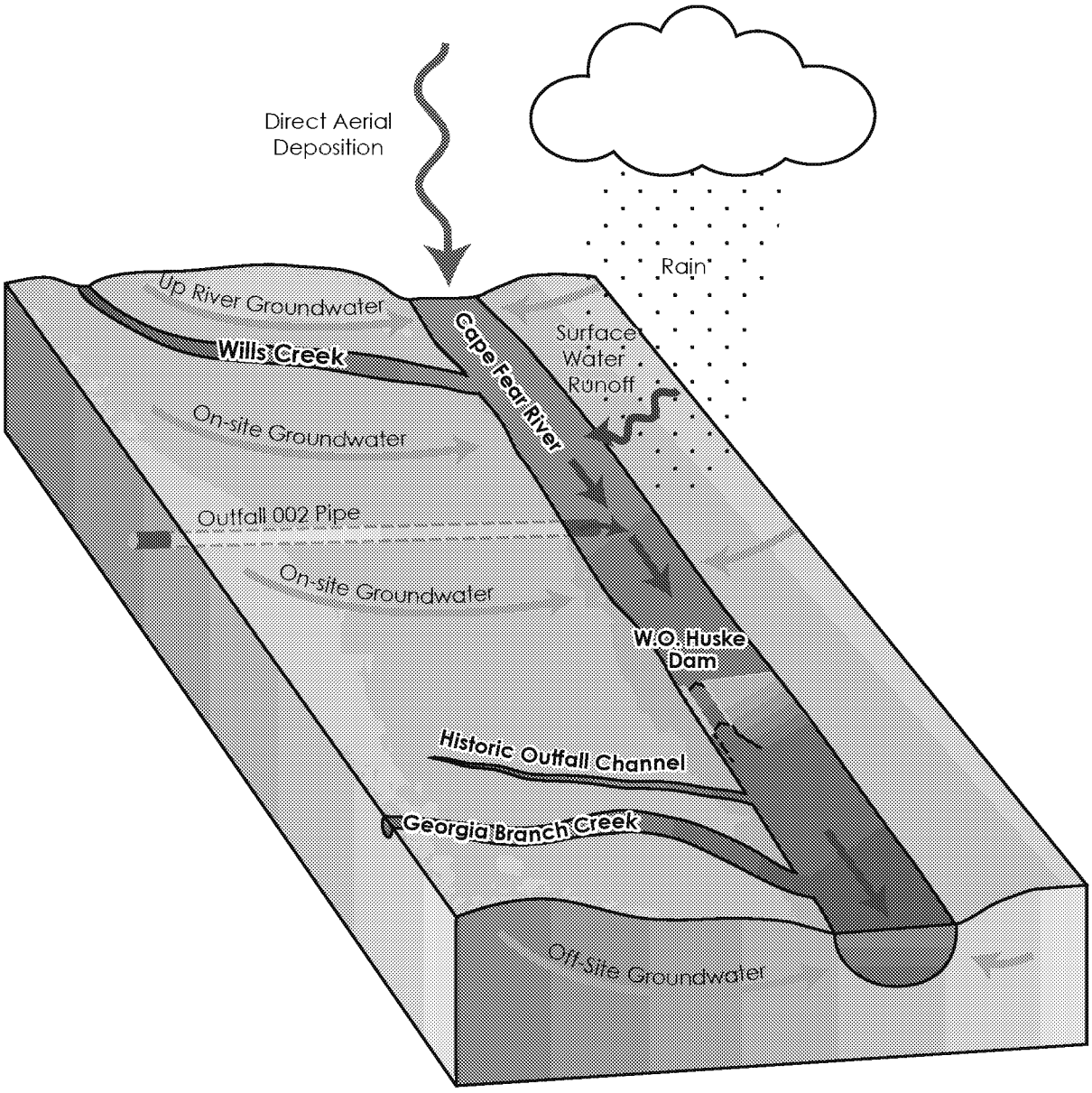
[3] During the 26-27 September 2017 sampling event there was no rain before or during the event, therefore the run-off flux is 0 ng/s.

[4] Off-Site groundwater was estimated using residential well concentration data and the same hydraulic conductivity value, 10^{-5} m/s, used for on-Site groundwater upwelling estimates. The on-Site gradient value, 0.064, was used in estimating upwelling on the same side of the river as the site (west). A lower gradient, 0.0064, was used for the opposite side of the river (east) where land surface topography is more subdued.

[5] Measured data are from the 26-27 September 2017 surface water sampling event.

Acronyms

L/s - liters per second
m/s - meters per second
ng/L - nanograms per liter
ng/s - nanograms per second

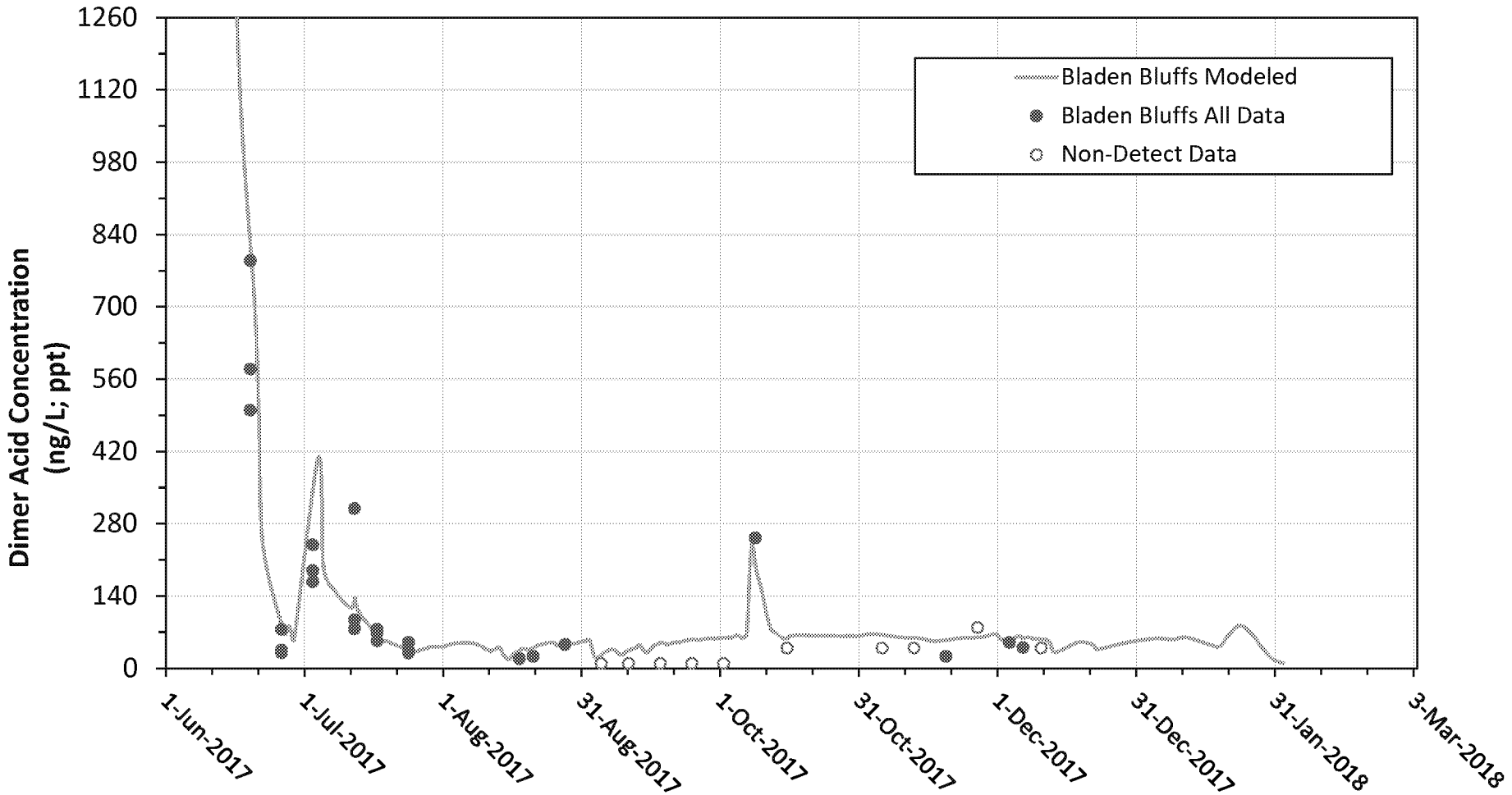


Conceptual Diagram: Potential Dimer Acid Pathways to Cape Fear River
Chemours Fayetteville Works

Geosyntec consultants

Guelph | February 2018

Figure 1



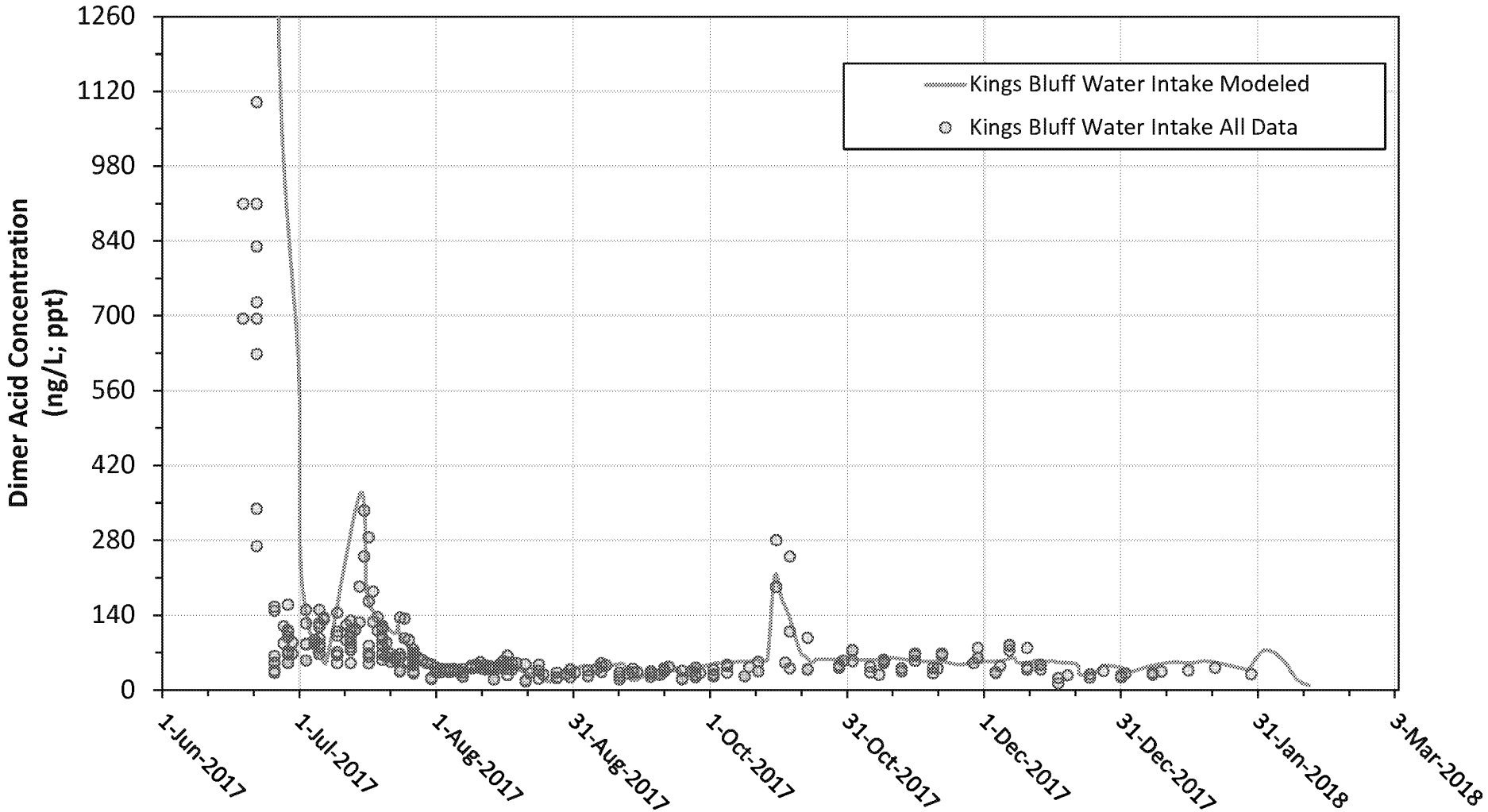
Notes:
ng/L - nanograms per liter
ppt - parts per trillion

River Mass Flux Model Estimates at Bladen Bluffs
Chemours Fayetteville Works

Geosyntec consultants

Guelph | February 2018

Figure **2**



Notes:
ng/L - nanograms per liter
ppt - parts per trillion

River Mass Flux Model Estimates at Kings Bluff Intake Canal
Chemours Fayetteville Works

Geosyntec consultants

Guelph | February 2018

Figure 3

The Chemours Company
Fluoroproducts
22828 NC Highway 87 W
Fayetteville, NC 28306-7332

910-483-4681 o
chemours.com

April 9, 2018

Ms. Julie A. Grzyb
Supervisor, NPDES Complex Permitting
NC DEQ / Division of Water Resources / Water Quality Permitting
512 North Salisbury St.,
Raleigh, NC, 27604

By email: Julie.grzyb@ncdenr.gov
And FedEx

Subject: Response to March 23, 2018 letter: *"Subject: PFAS Remediation – Focused Feasibility Study Report NPDES Permit NC 0003573"*

Dear Ms. Grzyb,

This letter responds to your March 23, 2018, letter asking for additional information about certain statements in the Focused Feasibility Study submitted by Chemours on February 28, 2018. Specifically, the letter requests additional detail about the discharges of process and non-process streams into the Nafion ditch (referred to herein as the "cooling water channel") referenced on pages 9-10. As you are aware, since submitting the Focused Feasibility Study, which was prepared on an extremely expedited schedule, Chemours has continued its site investigation at Fayetteville Works and the data collected continues to inform Chemours' evolving knowledge concerning the presence of certain constituents at various locations onsite. Chemours will supplement this response as further information becomes available.

Process Streams

Based upon our current information, the only process stream that had historically been discharged by DuPont or Chemours into the cooling water channel was from the waste nitric acid neutralization tank. This material is now being neutralized in the area waste acid tank system and then transferred to the Common Waste Tank (CWT) and shipped off site for disposal. Details of this discharge are below:

- To the best of our knowledge and based on available documents, discharge of the neutralized waste nitric acid into the cooling water channel began in 1977 and continued until September 4, 2017. See Attachment 1.[1]

[1] Letter from the North Carolina Division of Environmental Management to DuPont, dated 1977, authorizing "the construction of additions to the 11.4 MGD [million gallons per day] cooling

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- The discharge is permitted as Total Nitrogen in the NPDES permit. Chemours conducts monthly monitoring of Total Nitrogen as required.
- The waste nitric acid stream is generated on a batch basis in the IXM Hydrolysis unit.
- The constituents in the neutralized waste nitric acid stream include:
    - Water
    - Potassium nitrate (nitric acid neutralized with KOH)
    - Byproduct #2 (detected in a single screening sample taken in late summer 2017)
- As to Byproduct #2, in late summer 2017 Chemours tested the process waste stream, before it mixed with the cooling water channel, to analyze for HFPO Dimer Acid; the results for HFPO Dimer Acid were non-detect Chemours' internal laboratory standard at the time. However, the sampling indicated the presence of Byproduct #2. At the time of that sampling, Chemours was not able to quantify Byproduct #2 at the available detection limits due to lack of an available analytical standard.
- Prior to September 4, 2017, the neutralized waste nitric acid flowed from the cooling water channel to Outfall 002.
- The estimated average amount of neutralized nitric acid that was discharged into the channel prior to September 4, 2017 was 10 gallons/day. Please note that this is a batch process operating every 4-8 weeks. The average amount discharged is the total discharge expressed as a daily volume.
- On September 4, 2017, the facility stopped discharging the neutralized waste nitric acid stream into the cooling water channel and began capturing it for off-site disposal. Chemours has not taken any additional samples of this waste stream since all water was being captured for offsite disposal.

Non-Process Streams

The available information indicates that the non- process sources of PFAS that have been contained in the cooling water changes are: (1) the storm water drainage system and (2) the inlet river water used as non-contact cooling water. A summary of the data related to the non-process sources was sent to NCDEQ on March 29, 2018. See *Fayetteville Works, Stormwater Sampling Report,* and *VE South Investigation Technical Memorandum.* These reports document the potential for HFPO Dimer Acid input from stormwater runoff sources adjacent to the cooling water channel. Many of these sources have already been remediated. Details of these sources are:

- During large rainfall events (> 0.5 inches of rain), the soils onsite saturate and the stormwater then flows toward and into the stormwater drainage system, and then into

---

water discharge system consisting of a 300 gallon nitric acid waste storage tank with a 2 gpm [gallon per minute] pump and a 70 gallon neutralization tank with a 0.3 gpm pump." This document indicates that the State approved discharges from the nitric acid waste storage tank into the cooling water discharge system in 1977.

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the Outfall 002 effluent trench. The soils contain HFPO Dimer Acid in varying concentrations. The areas of higher concentration have been remediated.

- The constituents in the non-process streams are the same as those found in Outfall 002 sample results.
- The cooling water channel was designed and built in the early 1980s. It is unclear at what point in time the cooling water (Cape Fear River Water) and the stormwater started containing PFAS compounds.
- As NC DEQ is aware, and consistent with NCDEQ's letter of November 16, 2017, Chemours continues to discharge non-contact cooling water and stormwater from Outfall 002.
- The daily volume of non-process water being discharged to the cooling water channel ranges between 2 and 5 million gallons.
- NC DEQ has been aware of the PFAS discharges from this source through sampling data from Outfall 002 that has been shared with NC DEQ since June 14, 2017.

Beyond the question of PFAS inputs to the cooling water channel, the *Additional Site Investigation Report* (which was updated and resubmitted to the DWM on March 29, 2018), contains figures showing groundwater sampling results for PFAS in the perched water zone at the highest concentrations in onsite groundwater in the immediate vicinity of the cooling water channel. This data suggested to us at the time of receipt that the cooling water channel could be a source of PFAS to the perched zone, as stated in the Focused Feasibility Study. In the subsequent weeks following the submission of the Feasibility Study, Chemours ongoing analysis of data suggests that a terracotta sewer pipe that formerly carried process wastewater from the Fluoropolymers/Nafion™ area to the site wastewater treatment plant, where it mixed with process water from Kuraray SentryGlas®, Butacite®, and the power plant before ultimately discharging to the WWTP, may be an additional source of PFAS to the perched zone, thus suggesting that the cooling water ditch my not be as significant of a source as originally hypothesized. The terracotta sewer pipe from the Fluoropolymers/Nafion™ area was cut and capped in November 2017 and is therefore no longer a source of target PFAS to the Perched Zone. Chemours is conducting further sampling, including soil samples along the pipe route, to better understand the contribution of the terracotta pipe to PFAS levels in the perched zone. Chemours will provide the date to NC DEQ as it becomes available.

Maps and Diagrams

- Maps and diagrams of the channels that carry process and non-process wastewaters were provided in the *Fayetteville Works, Stormwater Sampling Report.*
- Chemours believes that the structure and flow direction of the channels has changed very little over time, although we have not been able to locate any historical maps. When the new effluent channel and new Outfall 002 was installed in 2012, we believe there was a change to the cooling water channel downstream of the Chemours manufacturing areas – including woodlined ditch downstream of PPA. We continue to investigate and look at historical documents to determine what process and non-process wastewaters may have been a source of PFAS in the past.

Please feel free to contact me with any questions about this response.

Thank you,

Christel Compton

To: Bean, Mark[Bean.Mark@epa.gov]
From: Schulz, Susan
Sent: Mon 12/11/2017 1:50:04 PM
Subject: FW: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 2pm & Briefing Paper attached
OCE Weekly AA-DAA 12112017.pdf

Here's the latest. Please join us at 1 or 2 pm.

From: Garvey, Mark
Sent: Saturday, December 09, 2017 12:15 AM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Cc: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Rog, Morgan <Rog.Morgan@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Nowell, Valerie <Nowell.Valerie@epa.gov>; Hansen, Susan <Hansen.Susan@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; George, Verne <George.Verne@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>
Subject: RE: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 2pm & Briefing Paper attached

There are conflicting times for the Monday meeting. The agenda from the front office says 1pm and the invite from the front office says 2.
My management believes it is **scheduled for 2pm on Monday** and the agenda has the wrong time. The attachment also has the final GenX briefing paper below the item below the agenda.

Sorry for the confusion. We'll try to clarify things on Monday.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Friday, December 08, 2017 3:15 PM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Cc: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Rog, Morgan <Rog.Morgan@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; George,

Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Nowell, Valerie <Nowell.Valerie@epa.gov>; Hansen, Susan <Hansen.Susan@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Strynar, Mark <strynar.mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; George, Verne <George.Verne@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>
Subject: RE: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 1pm

Attached is the agenda for the **Monday ** 1pm Susan Bodine Briefing**

It is part of the weekly OCE meeting with the AA.

OCE Weekly w/AA/DAA/PDAA, call in number Personal Phone / Ex. 6

Region 4 will be joined by Regions 2, 3 and 5 on the call.

I'll send the final briefing paper when it becomes available.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.govcl

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Miles, James[miles.james@epa.gov]; Garvey, Mark[Garvey.Mark@epa.gov]; Collins, Charlie[collins.charlie@epa.gov]
From: Speir, Jeffrey[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8ED7CAB3DEB648F4927AEAE165BA2F23-SPEIR, JEFF]
Sent: Thur 7/12/2018 12:55:27 PM (UTC)
Subject: RE: Chemours Paper Check-in
2018-07-11 Chemours Briefing Paper_OCE-WED.docx

Here's the draft paper from WED that is circulating for management review. It pulls largely from the authorities paper we compiled in December, and Deliberative Process; Ex. 5 / Enforcement/Investigatory Ex. 7(a) thought I would share in advance of our 11:00 am check-in.

Jeffrey Speir, Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
(202) 564-0872

-----Original Appointment-----
From: Speir, Jeffrey
Sent: Wednesday, July 11, 2018 5:10 PM
To: Speir, Jeffrey; Miles, James; Garvey, Mark; Collins, Charlie
Subject: Chemours Paper Check-in
When: Thursday, July 12, 2018 11:00 AM-12:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: DCRoomARS3142/DC-ARIEL-RIOS-OECA-OCE

We will likely not need the whole hour.

To: Fergusson, Bruce[Fergusson.Bruce@epa.gov]
Cc: Collins, Charlie[collins.charlie@epa.gov]
From: Greenwald, Kathryn[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=E1ADACDF73EC47D6994490000530580E-KGREENWA]
Sent: Fri 8/18/2017 6:15:40 PM (UTC)
Subject: Fw: Gen-X
Chemours GenX Authorities Paper 081817 revised (005).docx

FYI

From: Saenz, Diana
Sent: Friday, August 18, 2017 2:08 PM
To: Kelley, Rosemarie; Greenwald, Kathryn; Speir, Jeffrey; King, Carol; Pollins, Mark; Theis, Joseph; Denton, Loren; Sullivan, Greg; Miles, James; Lott, Don; Garvey, Mark
Cc: Shinkman, Susan
Subject: RE: Gen-X

Rosemarie –

Here is the draft Chemours Enforcement Options Paper –

Please let us know if you have any comments so that we may revise as necessary and send forward to Larry on Monday.

Thanks,
Diana

Diana J. Saenz
Associate Director
Waste and Chemical Enforcement Division
Office of Civil Enforcement/ U.S. EPA
1200 Pennsylvania Ave., N.W.
Mailcode 2249A
Washington, D.C. 20460
Phone: (202) 564-4209
Fax: (202) 564-0022
Saenz.Diana@epa.gov

From: Kelley, Rosemarie
Sent: Friday, August 18, 2017 10:46 AM
To: Greenwald, Kathryn <Greenwald.Kathryn@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>; Lott, Don <Lott.Don@epa.gov>
Cc: Shinkman, Susan <Shinkman.Susan@epa.gov>
Subject: RE: Gen-X

Are we still on target to get a paper from WED/WCED by mid-day today?

We'll be briefing Larry next Tuesday, so it would be helpful to get a look at the paper today as we will need to send it up on Monday. Thanks.

Rosemarie

From: Shinkman, Susan

Sent: Monday, August 14, 2017 11:45 AM
To: Greenwald, Kathryn <Greenwald.Kathryn@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Subject: Gen-X

I talked to Scott Gordon and explained our plan to have a briefing paper laying out the potential enforcement options under: [redacted] Enforcement/Investigatory / Ex. 7(a) by Thursday, with briefing next week. He is in agreement, and Region 4 should be working with you.

Thanks,
Susan

Susan Shinkman
Director, Office of Civil Enforcement
U.S. Environmental Protection Agency
Washington, DC
202-564-3257

This email is for the intended recipient only and may contain material that is privileged and/or confidential. If you believe you have received this email in error, please notify the sender. Thank you.

Message

From: Speir, Jeffrey [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8ED7CAB3DEB648F4927AEAE165BA2F23-SPEIR, JEFF]
Sent: 8/17/2017 3:40:45 PM
To: Pollins, Mark [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=591f52a6cc074a2394fb5ddc306c2fd7-Mpollins]
CC: Fergusson, Bruce [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6917ee37a80549fb99d2e454e3609ef6-Bferguss]; Baptista, Chrisna [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c319d331d35b4110bc6584b4557bc561-Tan, Chrisna]; Collins, Charlie [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=be5e752ac7044e79897af31c50cf6e85-Collins, Ch]
Subject: FW: GenX - Chemours Authorities Paper
Attachments: Chemours GenX Options Paper 081717.docx

FYI – Here is the transmission of the draft GenX options paper to Region 4, OW, and OCSPP.

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Miles, James
Sent: Thursday, August 17, 2017 11:01 AM
To: Gordon, Scott <Gordon.Scott@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Nagle, Deborah <Nagle.Deborah@epa.gov>; Thompkins, Anita <Thompkins.Anita@epa.gov>
Cc: Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Baney, Tony <Baney.Tony@epa.gov>; Seltzer, Mark <Seltzer.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>
Subject: GenX - Chemours Authorities Paper

Hi all –

As discussed earlier in the week, please find attached a draft paper discussing the pertinent enforcement and regulatory authorities to respond to the GenX situation. We're especially seeking comments from our program counterparts on the regulatory front.

In terms of timing, our OCE OECA Office Director would like to have a draft by COB Friday. For us to incorporate your comments, we would need them at the latest by **10AM tomorrow**. Apologies for the tight turnaround, but we'll continue to work closely with you even after the draft moves forward.

Please send comments/revisions/questions to Mark Garvey, Greg Sullivan and me.

Thanks in advance!

James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement

Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A
1201 Constitution Ave., NW
Washington, DC 20004
202.564.5161
miles.james@epa.gov

To: Greenwald, Kathryn[Greenwald.Kathryn@epa.gov]; Fergusson, Bruce[Fergusson.Bruce@epa.gov]
Cc: Collins, Charlie[collins.charlie@epa.gov]
From: Speir, Jeffrey[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8ED7CAB3DEB648F4927AEAE165BA2F23-SPEIR, JEFF]
Sent: Tue 8/15/2017 11:05:51 PM (UTC)
Subject: RE: Gen-X
Chemours GenX Options Paper 081517_WED.docx

Hi Kathy and Bruce,

Enforcement/Investigatory / Ex. 7(a) / AC/DP / Ex. 5

Enforcement/Investigatory / Ex. 7(a) / AC/DP / Ex. 5 Please let me know if you have any edits or comments. WCED is hoping to share an OCE draft with the program offices and Region 4 mid-day tomorrow (Wednesday). Sorry for the delay in getting this to you!

(Charlie, please let me know if you have any edits or comments, as well.)

Thanks!

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Speir, Jeffrey
Sent: Monday, August 14, 2017 12:03 PM
To: Greenwald, Kathryn <Greenwald.Kathryn@epa.gov>
Subject: RE: Gen-X

Great. Thank you for inquiring. I plan to coordinate with Region 4 today and tomorrow and to provide a draft Enforcement/Investigatory / Ex. 7(a) / AC/DP / Ex. 5 Enforcement/Investigatory / Ex. 7(a) / AC/DP / Ex. 5 to you and Bruce by COB Tuesday. Please let me know if that will not allow enough time for WED review.

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Greenwald, Kathryn
Sent: Monday, August 14, 2017 12:01 PM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: FW: Gen-X

Jeff,
FYI, at this morning's OD/DD meeting, I asked Susan and Rosemarie when they needed to review a draft of the options paper and they said that this Thursday morning is fine.

Kathy

From: Shinkman, Susan
Sent: Monday, August 14, 2017 11:45 AM
To: Greenwald, Kathryn <Greenwald.Kathryn@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James

<miles.james@epa.gov>
Cc: Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Subject: Gen-X

I talked to Scott Gordon and explained our plan to have a briefing paper laying out the Enforcement/Investigatory / Ex. 7(a) / AC/DP / Ex. 5 Enforcement/Investigatory / Ex. 7(a) / AC/DP / Ex. 5 by Thursday, with briefing next week. He is in agreement, and Region 4 should be working with you.

Thanks,
Susan

Susan Shinkman
Director, Office of Civil Enforcement
U.S. Environmental Protection Agency
Washington, DC
202-564-3257

This email is for the intended recipient only and may contain material that is privileged and/or confidential. If you believe you have received this email in error, please notify the sender. Thank you.

To: Collins, Charlie[collins.charlie@epa.gov]
Cc: Speir, Jeffrey[speir.jeffrey@epa.gov]
From: Garvey, Mark[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DCB64DF923844466ACAC67C1F19EABE0-MGARVEY]
Sent: Thur 8/10/2017 1:18:19 PM (UTC)
Subject: FW: GenX Briefing for Patrick Traylor of July 20
Chemours Enforcement 1-pager 072017.docx

Another Item I found that might be useful

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Tuesday, July 25, 2017 3:19 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: GenX Briefing

From: Sullivan, Greg
Sent: Thursday, July 20, 2017 6:29 PM
To: Traylor, Patrick <traylor.patrick@epa.gov>; Shinkman, Susan <Shinkman.Susan@epa.gov>
Cc: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>; Miles, James <miles.james@epa.gov>
Subject: RE: GenX Briefing

Patrick,

Attached is a paper on the enforcement related activities. I am out tomorrow, but will be checking email if you have any questions on the paper.

Greg

From: Traylor, Patrick
Sent: Thursday, July 20, 2017 5:41 PM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; Shinkman, Susan <Shinkman.Susan@epa.gov>
Cc: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Subject: RE: GenX Briefing

I'm headed out now for the evening, but will need the OECA-relevant materials first thing in the morning.

Patrick Traylor
Deputy Assistant Administrator
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
(202) 564-5238 (office)

(202) 809-8796 (cell)

From: Sullivan, Greg
Sent: Thursday, July 20, 2017 12:24 PM
To: Traylor, Patrick <traylor.patrick@epa.gov>; Shinkman, Susan <Shinkman.Susan@epa.gov>
Cc: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Subject: RE: GenX Briefing

We'll pull something together on Deliberative Process; Ex. 5 / Enforcement/Investigatory Ex. 7(a) I cc'd WED on this for their input on the regional/state water enforcement related activities.

From: Traylor, Patrick
Sent: Thursday, July 20, 2017 12:16 PM
To: Shinkman, Susan <Shinkman.Susan@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>
Subject: GenX Briefing

I'm a part of a briefing to the Administrator on GenX Friday morning at 10:00. I will need the latest information on our inspection efforts and next steps regarding enforcement.

Patrick Traylor
Deputy Assistant Administrator
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
(202) 564-5238 (office)
Personal Phone / Ex. 6 cell)

To: Davis, Molly[Davis.Molly@epa.gov]
From: Janovitz, Sara
Sent: Tue 11/14/2017 12:37:00 PM
Subject: FW: Chemours - NOV
DOC111317-11132017175559.pdf
Chemours 11-2-2017 site visit.docx

Molly-

I didn't get to talk to Linda yesterday, but she sent me this NOV. She also sent me a copy of the inspection report (which has an explanation of how the spill occurred). Do you want me to send this to mary?

Sara Schiff Janovitz

(404) 562-9870

-----Original Message-----
From: Culpepper, Linda [mailto:linda.culpepper@ncdenr.gov]
Sent: Monday, November 13, 2017 6:34 PM
To: Janovitz, Sara <Janovitz.Sara@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>
Cc: Buckley, Timothy <Buckley.Timothy@epa.gov>
Subject: FW: Chemours - NOV

NOV for spill is attached.

Linda Culpepper
Acting Director
Division of Water Resources
North Carolina Department of Environmental Quality

1611 Mail Service Center
Phone: 919-707-9014

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

-----Original Message-----
From: Culpepper, Linda
Sent: Monday, November 13, 2017 5:05 PM
To: 'ellis.h.mcgaughy@chemours.com' <ellis.h.mcgaughy@chemours.com>; Johnson, Michael E <MICHAEL.E.JOHNSON@chemours.com>
Cc: Allen, Trent <trent.allen@ncdenr.gov>
Subject: Chemours - NOV

Forwarding the attached file. The original will be sent via Certified Mail.

Linda Culpepper
Acting Director
Division of Water Resources
North Carolina Department of Environmental Quality

1611 Mail Service Center
Phone: 919-707-9014

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

Organizer: Sullivan, Greg[Sullivan.Greg@epa.gov]
From: Sullivan, Greg
Location: DCRoomARS4140VideoConf@epa.gov
Importance: High
Subject: FW: Citizen Suit Notice (CWA/TSCA)
Start Time: Thur 5/31/2018 1:30:00 PM
End Time: Thur 5/31/2018 2:00:00 PM
Required Attendees: Pollins, Mark; Denton, Loren; King, Carol; Speir, Jeffrey; Garvey, Mark; Miles, James; Saenz, Diana

FW: Citizen Suit Notice (CWA/TSCA)

WED colleagues - lets met this week to talk about the EPA/OECA response and next steps on the Cape Fear Watch NOIs?

From: Kemker, Carol
Sent: Friday, May 18, 2018 6:10 PM
To: Sullivan, Greg; Miles, James
Cc: Banister, Beverly; Mitchell, Ken; Toney, Anthony; Bookman, Robert; George, Verne
Subject: FW: Citizen Suit Notice (CWA/TSCA)
Attachments: CapeFearRiverWatch v Chemours_NC.doc; CapeFearRiverWatch v Chemours_NC.pdf

Importance: High

Greg and James,

Wanted to make sure you all have a copy of the NOIs. Let's discuss the timing for the case development.

Carol

From: Toney, Anthony
Sent: Friday, May 18, 2018 12:32 PM
To: Bookman, Robert <Bookman.Robert@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>
Cc: George, Verne <George.Verne@epa.gov>
Subject: FW: Citizen Suit Notice (CWA/TSCA)
Importance: High

FYI.

From: Bullock, Patricia
Sent: Friday, May 18, 2018 9:45 AM
To: Moore, Yvonne <Moore.Yvonne@epa.gov>; Jones, Laurie <JONES.LAURIE@EPA.GOV>
Cc: O'Lone, Dan <Olone.Dan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>
Subject: Citizen Suit Notice (CWA/TSCA)
Importance: High

Attached are NOIs for both CWA and TSCA statues (hard copies were forwarded via interoffice mail). Please review and forward back via word document and interoffice mail by due date.

Thank you,

Pat

To: Sullivan, Greg[Sullivan.Greg@epa.gov]; Miles, James[miles.james@epa.gov]; Saenz, Diana[Saenz.Diana@epa.gov]
Cc: Garvey, Mark[Garvey.Mark@epa.gov]; Raack, Pete[Raack.Pete@epa.gov]
From: Speir, Jeffrey[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8ED7CAB3DEB648F4927AEAE165BA2F23-SPEIR, JEFF]
Sent: Thur 8/17/2017 12:46:31 PM (UTC)
Subject: RE: Chemours GenX Options Paper - Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5
Chemours GenX Options Paper 081617 Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5 clean gs edits_js.docx

Thank you, Greg. **Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5**

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Sullivan, Greg
Sent: Wednesday, August 16, 2017 6:31 PM
To: Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Garvey, Mark <Garvey.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Raack, Pete <Raack.Pete@epa.gov>
Subject: RE: Chemours GenX Options Paper - TSCA,SDWA,CWA, RCRA

I had questions and edits on the intro and TSCA sections. Take a look and let me know if these can work.

From: Miles, James
Sent: Wednesday, August 16, 2017 5:35 PM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Garvey, Mark <Garvey.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Raack, Pete <Raack.Pete@epa.gov>
Subject: Chemours GenX Options Paper Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process /Ex. 5

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5

Would you like to do the honors after you review? In terms of timing, it's tight. If we're to get this to Susan and Rosemarie by Friday, we probably need comments by COB tomorrow.

James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A
1201 Constitution Ave., NW
Washington, DC 20004
202.564.5161
miles.james@epa.gov

To: Miles, James[miles.james@epa.gov]; Saenz, Diana[Saenz.Diana@epa.gov]
Cc: Garvey, Mark[Garvey.Mark@epa.gov]; Speir, Jeffrey[speir.jeffrey@epa.gov]; Raack, Pete[Raack.Pete@epa.gov]
From: Sullivan, Greg[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=617761BAB33D4773B7F976B1EAD8B9B5-GSULLI02]
Sent: Wed 8/16/2017 10:30:45 PM (UTC)
Subject: RE: Chemours GenX Options Paper Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5
Chemours GenX Options Paper 081617_ Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5 clean gs edits.docx

I had questions and edits on the intro and TSCA sections. Take a look and let me know if these can work.

From: Miles, James
Sent: Wednesday, August 16, 2017 5:35 PM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Garvey, Mark <Garvey.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Raack, Pete <Raack.Pete@epa.gov>
Subject: Chemours GenX Options Paper Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process /Ex. 5

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5

Would you like to do the honors after you review? In terms of timing, it's tight. If we're to get this to Susan and Rosemarie by Friday, we probably need comments by COB tomorrow.

James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A
1201 Constitution Ave., NW
Washington, DC 20004
202.564.5161
miles.james@epa.gov

To: Garvey, Mark[Garvey.Mark@epa.gov]
Cc: Miles, James[miles.james@epa.gov]
From: Speir, Jeffrey[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8ED7CAB3DEB648F4927AEAE165BA2F23-SPEIR, JEFF]
Sent: Tue 8/15/2017 11:08:23 PM (UTC)
Subject: RE: Chemours GenX Options Paper 081517
Chemours GenX Options Paper 081517_WED.docx

Thanks, Mark.

I have added Enforcement/Investigatory / Ex. 7(a) to the draft paper. This draft is currently with acting WED managers for their review, but I wanted to share it with you as well.

I agree that it would be good to get an OCE draft to the program offices and Region 4 in advance of transmitting it to Susan.

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Garvey, Mark
Sent: Tuesday, August 15, 2017 5:38 PM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Speir, Jeffrey <speir.jeffrey@epa.gov>; Miles, James <miles.james@epa.gov>
Subject: Chemours GenX Options Paper 081517

Greg, Diana and Jeff,

This is our (James and I) initial effort for the Enforcement/Investigatory / Ex. 7(a) of the GenX briefing. This does not contain any Enforcement/Investigatory / Ex. 7(a) The briefing paper is a broad overview. Maria Doa in OPPT and Scott Gordon in Region 4 want to see the paper before it goes to Susan. It would be good to share an OCE draft with the program and the region tomorrow by 1pm so we can get it to Susan by noon Thursday.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Garvey, Mark[Garvey.Mark@epa.gov]
From: Fite, Mark
Sent: Tue 8/29/2017 6:39:09 PM
Subject: RE: Chemours - Enforcement Coordination Call

Mark, left you a vmail, but wanted to get some clarification on the questions I need to ask my water division. Could you give me a call when you get a minute?

Thanks!

Mark J. Fite
Technical Authority for CAA, TSCA, FIFRA, & EPCRA
Office of Enforcement Coordination
U.S. EPA Region 4
61 Forsyth St., SW
Atlanta, GA 30303
fite.mark@epa.gov
404.562.9740

From: Garvey, Mark
Sent: Tuesday, August 29, 2017 12:15 PM
To: Miles, James <miles.james@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>; daw, harry <daw.harry@epa.gov>; Gorman, John <Gorman.John@epa.gov>; Klevs, Mardi <klevs.mardi@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Paul Buellesbach <paul.buellesbach@erg.com>; Dan-Tam Nguyen <Dan-Tam.Nguyen@erg.com>; Daryl Hudson <Daryl.Hudson@erg.com>; Schulz, Susan <Schulz.Susan@epa.gov>; DeDora, Caroline <DeDora.Caroline@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Star, David <star.david@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Martinez, Jeffrey <Martinez.Jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Anderson, Kate <Anderson.Kate@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>; Swan, Russell <Swan.Russell@epa.gov>
Cc: Poy, Thomas <poy.thomas@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; rogers, rick <rogers.rick@epa.gov>; Wilson, Jennifer <wilson.jenniferA@epa.gov>; Day, Christopher <Day.Christopher@epa.gov>; Coe, Mary <Coe.Mary@epa.gov>; Ramalho, Louis <Ramalho.Louis@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Unger, LouAnn <unger.louann@epa.gov>; Bair, Rita <bair.rita@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Field, Stephen <Field.Stephen@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>
Subject: RE: Chemours - Enforcement Coordination Call

Agenda for today's call

1) Nomenclature
   a. Ammonium Salt v. Dimer Acid v. Dimer Acid salt
   b. What is in the river and what is GenX?
2) **Enforcement/Investigatory / Ex. 7(a) / Deliberative Process / Ex. 5**
3) Update on CDR numbers
4) **Enforcement/Investigatory / Ex. 7(a) / Deliberative Process / Ex. 5**
5) Region 3 preparations for inspection.

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

-----Original Appointment-----
From: Miles, James
Sent: Thursday, August 03, 2017 4:43 PM
To: Miles, James; Bookman, Robert; Pratt, Stacie; daw, harry; Gorman, John; Klevs, Mardi; Kemker, Carol; Denton, Loren; Paul Buellesbach; Dan-Tam Nguyen; Daryl Hudson; Schulz, Susan; DeDora, Caroline; Davis, Lauren O.; Gordon, Scott; Fite, Mark; George, Verne; Bates, Keith; Mitchell, Ken; Bean, Mark; Toney, Anthony; Doa, Maria; Star, David; Garvey, Mark; Tucker, Marlene; Ellis, Tony; Sullivan, Greg; Saenz, Diana; Martinez, Jeffrey; King, Carol; Anderson, Kate; Henry, Tala; Allison, Rose; Swan, Russell
Cc: Poy, Thomas; Speir, Jeffrey; Collins, Charlie; Aubee, Catherine; rogers, rick; Wilson, Jennifer; Day, Christopher; Coe, Mary; Ramalho, Louis; Harris, Kimberly; Unger, LouAnn; Bair, Rita; Shoven, Heather; Clark, Jacqueline; Duchovnay, Andrew; Field, Stephen
Subject: Chemours - Enforcement Coordination Call
When: Tuesday, August 29, 2017 12:30 PM-1:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Personal Phone / Ex. 6

Setting up a reoccurring bi-weekly call through Sept. for this matter, per 7/31/17 discussion

To: Garvey, Mark[Garvey.Mark@epa.gov]; Miles, James[miles.james@epa.gov]; Haas, Craig[Haas.Craig@epa.gov]; Ellis, Tony[Ellis.Tony@epa.gov]
From: Bernota, Carolyn
Sent: Tue 6/20/2017 1:20:32 PM
Subject: RE: Region 4 inspection

Got it; thank you.

Carolyn

-----Original Message-----
From: Garvey, Mark
Sent: Tuesday, June 20, 2017 9:11 AM
To: Miles, James <miles.james@epa.gov>; Haas, Craig <Haas.Craig@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Bernota, Carolyn <Bernota.Carolyn@epa.gov>
Subject: RE: Region 4 inspection

Enforcement/Investigatory / Ex. 7(a)

Let me know if there are other items you want to discuss.

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

-----Original Message-----
From: Miles, James
Sent: Tuesday, June 20, 2017 8:58 AM
To: Haas, Craig <Haas.Craig@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Bernota, Carolyn <Bernota.Carolyn@epa.gov>
Subject: Region 4 inspection

Enforcement/Investigatory / Ex. 7(a)

Sent from my iPhone

To: Sullivan, Greg[Sullivan.Greg@epa.gov]; Shinkman, Susan[Shinkman.Susan@epa.gov]; Kelley, Rosemarie[Kelley.Rosemarie@epa.gov]; Garvey, Mark[Garvey.Mark@epa.gov]; Miles, James[miles.james@epa.gov]
Cc: Pollins, Mark[Pollins.Mark@epa.gov]; Theis, Joseph[Theis.Joseph@epa.gov]; Denton, Loren[Denton.Loren@epa.gov]; Speir, Jeffrey[speir.jeffrey@epa.gov]
From: King, Carol[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D38C5B906A8F476F81D7BC657A6833A1-DEMARCO, CAROL]
Sent: Thur 7/20/2017 9:03:11 PM (UTC)
Subject: RE: Chemours Enforcement Efforts 1 pager gs/mg/jm edit
SKMBT_C554e17010614520.pdf
Chemours Enforcement 1-pager 072017 (with WED edits).docx

I just checked with Loren and WED has a few minor suggested edits, which are attached. (I misspoke when I said the Parkersburg SDWA AOC was amended last year; it wasn't signed until January of this year. PDF attached as an FYI.)

Thanks,
Carol

CONFIDENTIAL: This transmission may contain deliberative, attorney-client, attorney work product or otherwise privileged material. Do not release under FOIA without appropriate review. If this message was sent to you in error, you are instructed to delete this message from your machine and all storage media whether electronic or hard copy.

From: Sullivan, Greg
Sent: Thursday, July 20, 2017 4:37 PM
To: Shinkman, Susan <Shinkman.Susan@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>
Cc: Miles, James <miles.james@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Fwd: Chemours Enforcement Efforts 1 pager gs/mg/jm edit

Here is a summary of enforcement related activities for Patrick's briefing with the administrator tomorrow. It has some description of NC water activities. Please take a look. We'd like to get this to him tonight.

Sent from my iPhone
Begin forwarded message:

> **From:** "Miles, James" <miles.james@epa.gov>
> **Date:** July 20, 2017 at 4:26:07 PM EDT
> **To:** "Sullivan, Greg" <Sullivan.Greg@epa.gov>, "Garvey, Mark" <Garvey.Mark@epa.gov>
> **Subject: RE: Chemours Enforcement Efforts 1 pager gs/mg/jm edit**
>
> Here's where we are
>
> ---
>
> **From:** Sullivan, Greg
> **Sent:** Thursday, July 20, 2017 4:12 PM
> **To:** Garvey, Mark <Garvey.Mark@epa.gov>; Miles, James <miles.james@epa.gov>
> **Subject:** RE: Chemours Enforcement Efforts 1 pager gs/mg/jm edit
>
> Sorry - I jumped the gun and edited this version.
>
> ---
>
> **From:** Garvey, Mark
> **Sent:** Thursday, July 20, 2017 3:47 PM
> **To:** Miles, James <miles.james@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>
> **Subject:** Chemours Enforcement Efforts 1 pager gs/mg/jm edit

---

Mark Garvey
EPA Headquarters

Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

Message

From: Miles, James [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=6C27D6E7B72E48508EF8AE5768CCAAD3-JMILES]
Sent: 5/21/2018 1:40:12 PM
To: Ellis, Tony [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b1de90c0e3a844b194c43a5e276503f6-Tellis02]
CC: Garvey, Mark [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dcb64df923844466acac67c1f19eabe0-Mgarvey]
Subject: FW: Citizen Suit Notice (CWA/TSCA)
Attachments: CapeFearRiverWatch v Chemours_NC.doc; CapeFearRiverWatch v Chemours_NC.pdf

Importance: High

Resending to include Tony

From: Miles, James
Sent: Monday, May 21, 2018 8:46 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: Citizen Suit Notice (CWA/TSCA)
Importance: High

From: Kemker, Carol
Sent: Friday, May 18, 2018 6:10 PM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; George, Verne <George.Verne@epa.gov>
Subject: FW: Citizen Suit Notice (CWA/TSCA)
Importance: High

Greg and James,

Wanted to make sure you all have a copy of the NOIs. Let's discuss the timing for the case development.

Carol

From: Toney, Anthony
Sent: Friday, May 18, 2018 12:32 PM
To: Bookman, Robert <Bookman.Robert@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>
Cc: George, Verne <George.Verne@epa.gov>
Subject: FW: Citizen Suit Notice (CWA/TSCA)
Importance: High

FYI.

From: Bullock, Patricia
Sent: Friday, May 18, 2018 9:45 AM
To: Moore, Yvonne <Moore.Yvonne@epa.gov>; Jones, Laurie <JONES.LAURIE@EPA.GOV>
Cc: O'Lone, Dan <Olone.Dan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>

Subject: Citizen Suit Notice (CWA/TSCA)
Importance: High

Attached are NOIs for both CWA and TSCA statues (hard copies were forwarded via interoffice mail). Please review and forward back via word document and interoffice mail by due date.

Thank you,

Pat

From: Garvey, Mark[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DCB64DF923844466ACAC67C1F19EABE0-MGARVEY]

Location: DCRoomEast4140/DC-EPA-EAST-OCSPP-OPPT-CCD

Importance: Normal

Subject: Accepted: Chemours' Inspection- Enforcement/Investigatory / Ex. 7(a)

Start Time: Wed 7/11/2018 3:00:00 PM (UTC)

End Time: Wed 7/11/2018 4:00:00 PM (UTC)

Required Attendees: Olson, Bethany

Appointment

From: Garvey, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DCB64DF923844466ACAC67C1F19EABE0-MGARVEY]
Sent: 4/12/2018 1:59:41 PM
To: Miles, James [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6c27d6e7b72e48508ef8ae5768ccaad3-JMiles]

Subject: Accepted: Hold - Chemours Inspection Report

Start: 4/19/2018 5:00:00 PM
End: 4/19/2018 6:00:00 PM
Show Time As: Busy

To: Ellis, Tony[Ellis.Tony@epa.gov]
From: Garvey, Mark
Sent: Thur 6/21/2018 6:57:57 PM
Subject: FW: Chemours GenX Enforcement/Investigatory Ex. 7(a)

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Thursday, June 21, 2018 2:53 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: Chemours GenX Enforcement/Investigatory Ex. 7(a)

From: Sullivan, Greg
Sent: Thursday, June 21, 2018 2:51 PM
To: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours GenX Enforcement/Investigatory Ex. 7(a)

Proposed agenda for 3:30 meeting with Rosemarie:

Enforcement/Investigatory / Ex. 7(a)

From: Miles, James
Sent: Thursday, June 21, 2018 2:37 PM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>
Subject: FW: Chemours GenX Enforcement/Investigatory Ex. 7(a)

From: Garvey, Mark
Sent: Thursday, June 21, 2018 2:35 PM
To: Ellis, Tony <Ellis.Tony@epa.gov>; Miles, James <miles.james@epa.gov>
Subject: Chemours GenX Enforcement/Investigatory Ex. 7(a)

For Review in the next 15 miinutes

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Sullivan, Greg[Sullivan.Greg@epa.gov]; Saenz, Diana[Saenz.Diana@epa.gov]
Cc: Speir, Jeffrey[speir.jeffrey@epa.gov]; Miles, James[miles.james@epa.gov]
From: Garvey, Mark
Sent: Tue 8/15/2017 9:37:42 PM
Subject: Chemours GenX Options Paper 081517
Chemours GenX Options Paper 081517.docx

Greg, Diana and Jeff,

This is our (James and I) initial effort for the Enforcement/Investigatory / Ex. 7(a) of the GenX briefing. This does not contain any Enforcement/Investigatory / Ex. 7(a) The briefing paper is a broad overview. Maria Doa in OPPT and Scott Gordon in Region 4 want to see the paper before it goes to Susan. It would be good to share an OCE draft with the program and the region tomorrow by 1pm so we can get it to Susan by noon Thursday.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Greg Sullivan[Sullivan.Greg@epa.gov]
Cc: Seltzer, Mark[Seltzer.Mark@epa.gov]
From: Garvey, Mark[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DCB64DF923844466ACAC67C1F19EABE0-MGARVEY]
Sent: Mon 8/21/2017 8:13:35 PM (UTC)
Subject: FW: Gen-X sent to Rosemarie Friday Afternoon
Chemours GenX Authorities Paper 081817 revised (005).docx

Greg,

Mark Seltzer asked me to check the status of this. Since it was sent to Rosemarie on Friday afternoon, is there any follow-up you want me to do?

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Saenz, Diana
Sent: Friday, August 18, 2017 2:08 PM
To: Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>; Greenwald, Kathryn <Greenwald.Kathryn@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>; Lott, Don <Lott.Don@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Cc: Shinkman, Susan <Shinkman.Susan@epa.gov>
Subject: RE: Gen-X

Rosemarie –

Here is the draft Chemours Enforcement Options Paper –

Please let us know if you have any comments so that we may revise as necessary and send forward to Larry on Monday.

Thanks,
Diana

Diana J. Saenz
Associate Director
Waste and Chemical Enforcement Division
Office of Civil Enforcement/ U.S. EPA
1200 Pennsylvania Ave., N.W.
Mailcode 2249A
Washington, D.C. 20460
Phone: (202) 564-4209
Fax: (202) 564-0022
Saenz.Diana@epa.gov

From: Kelley, Rosemarie
Sent: Friday, August 18, 2017 10:46 AM

To: Greenwald, Kathryn <Greenwald.Kathryn@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>; Lott, Don <Lott.Don@epa.gov>
Cc: Shinkman, Susan <Shinkman.Susan@epa.gov>
Subject: RE: Gen-X

Are we still on target to get a paper from WED/WCED by mid-day today?

We'll be briefing Larry next Tuesday, so it would be helpful to get a look at the paper today as we will need to send it up on Monday. Thanks.

Rosemarie

From: Shinkman, Susan
Sent: Monday, August 14, 2017 11:45 AM
To: Greenwald, Kathryn <Greenwald.Kathryn@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Subject: Gen-X

I talked to Scott Gordon and explained our plan to have a briefing paper laying out the potential enforcement options under: [redacted] Enforcement/Investigatory / Ex. 7(a) by Thursday, with briefing next week. He is in agreement, and Region 4 should be working with you.

Thanks,
Susan

Susan Shinkman
Director, Office of Civil Enforcement
U.S. Environmental Protection Agency
Washington, DC
202-564-3257

This email is for the intended recipient only and may contain material that is privileged and/or confidential. If you believe you have received this email in error, please notify the sender. Thank you.

To: Doa, Maria[Doa.Maria@epa.gov]
Cc: Saenz, Diana[Saenz.Diana@epa.gov]; Miles, James[miles.james@epa.gov]; Greg Sullivan[Sullivan.Greg@epa.gov]
From: Garvey, Mark[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DCB64DF923844466ACAC67C1F19EABE0-MGARVEY]
Sent: Fri 8/18/2017 8:20:24 PM (UTC)
Subject: FW: GenX - Chemours Authorities Paper- Any Comments?
Chemours GenX Authorities Paper 081817 revised (005).docx

Maria,

We're ready to send the attached GenX Response Authorities paper to our Office Director this afternoon and verifying that you didn't have comments. Could you confirm for us that you don't have comments today so we can let our management know?

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Thursday, August 17, 2017 11:01 AM
To: Gordon, Scott <Gordon.Scott@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Nagle, Deborah <Nagle.Deborah@epa.gov>; Thompkins, Anita <Thompkins.Anita@epa.gov>
Cc: Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Baney, Tony <Baney.Tony@epa.gov>; Seltzer, Mark <Seltzer.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>
Subject: GenX - Chemours Authorities Paper

Hi all –

As discussed earlier in the week, please find attached a draft paper discussing the pertinent enforcement and regulatory authorities to respond to the GenX situation. We're especially seeking comments from our program counterparts on the regulatory front.

In terms of timing, our OCE OECA Office Director would like to have a draft by COB Friday. For us to incorporate your comments, we would need them at the latest by **10AM tomorrow**. Apologies for the tight turnaround, but we'll continue to work closely with you even after the draft moves forward.

Please send comments/revisions/questions to Mark Garvey, Greg Sullivan and me.

Thanks in advance!

James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A
1201 Constitution Ave., NW

Washington, DC 20004
202.564.5161
miles.james@epa.gov

To: Saenz, Diana[Saenz.Diana@epa.gov]
Cc: Greg Sullivan[Sullivan.Greg@epa.gov]; Miles, James[miles.james@epa.gov]
From: Garvey, Mark[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DCB64DF923844466ACAC67C1F19EABE0-MGARVEY]
Sent: Fri 8/18/2017 3:41:30 PM (UTC)
Subject: FW: Enforcement/Investigatory / Ex. 7(a)
Chemours GenX Authorities Paper 081817 revised.docx

Diana,
Here's the 9:37 message. It only went to James and Greg.

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Friday, August 18, 2017 9:37 AM
To: Greg Sullivan <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>
Subject: CERECLA Added to The Chemours GenX Authorities Paper 081817 revised

Greg & James,

Enforcement/Investigatory / Ex. 7(a) / / Attorney Work Product / Attorney-Client / Ex. 5

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

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To: Saenz, Diana[Saenz.Diana@epa.gov]
Cc: Greg Sullivan[Sullivan.Greg@epa.gov]; Miles, James[miles.james@epa.gov]
From: Garvey, Mark[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DCB64DF923844466ACAC67C1F19EABE0-MGARVEY]
Sent: Fri 8/18/2017 3:25:38 PM (UTC)
Subject: RE: Gen-X
Chemours GenX Authorities Paper 081817 revised.docx

Diana,

I'm attaching the same version I sent at 9:37 this morning. I didn't receive comments from anyone. I checked with Maria Doa yesterday to confirmed she received the email and she had, but had not taken a look at the paper then. I haven't received any indication that anyone wants an extension except OSRE asking if they could meet with us before we talk to Larry and OSRE wants us to coordinate with the CERCLA program office.

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

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From: Saenz, Diana
Sent: Friday, August 18, 2017 10:50 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: Gen-X

Mark:

Do you have the current version of the paper? Rosemarie is checking in on the paper.
I saw your highlight of the Enforcement/Investigatory / Ex. 7(a) did you add to the paper or pass that section on to Jeff Spier in WED?

Thanks
Diana

Diana J. Saenz
Associate Director
Waste and Chemical Enforcement Division
Office of Civil Enforcement/ U.S. EPA
1200 Pennsylvania Ave., N.W.
Mailcode 2249A
Washington, D.C. 20460
Phone: (202) 564-4209
Fax: (202) 564-0022
Saenz.Diana@epa.gov

From: Kelley, Rosemarie
Sent: Friday, August 18, 2017 10:46 AM
To: Greenwald, Kathryn <Greenwald.Kathryn@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>; Lott, Don <Lott.Don@epa.gov>

Cc: Shinkman, Susan <Shinkman.Susan@epa.gov>
Subject: RE: Gen-X

Are we still on target to get a paper from WED/WCED by mid-day today?

We'll be briefing Larry next Tuesday, so it would be helpful to get a look at the paper today as we will need to send it up on Monday. Thanks.

Rosemarie

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Sent: Monday, August 14, 2017 11:45 AM
To: Greenwald, Kathryn <Greenwald.Kathryn@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Subject: Gen-X

I talked to Scott Gordon and explained our plan to have a briefing paper laying out the potential enforcement options under: Enforcement/Investigatory / Ex. 7(a) Enforcement/Investigatory / Ex. 7(a) by Thursday, with briefing next week. He is in agreement, and Region 4 should be working with you.

Thanks,
Susan

Susan Shinkman
Director, Office of Civil Enforcement
U.S. Environmental Protection Agency
Washington, DC
202-564-3257

This email is for the intended recipient only and may contain material that is privileged and/or confidential. If you believe you have received this email in error, please notify the sender. Thank you.

To: Raack, Pete[Raack.Pete@epa.gov]; Neves, Peter[Neves.Peter@epa.gov]; Freed, Elisabeth[Freed.Elisabeth@epa.gov]
Cc: Sullivan, Greg[Sullivan.Greg@epa.gov]
From: Garvey, Mark[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DCB64DF923844466ACAC67C1F19EABE0-MGARVEY]
Sent: Thur 8/17/2017 8:04:09 PM (UTC)
Subject: RE: GenX paper Comments by 10am tomorrow
Chemours GenX Options Paper 081717.docx

Elizabeth

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5 This is scheduled to go to our office Director tomorrow by COB and we're asking for comments by 10am from Regions and Programs. Anything you can add would be great.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Raack, Pete
Sent: Thursday, August 17, 2017 3:19 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: GenX paper

From: Freed, Elisabeth
Sent: Thursday, August 17, 2017 2:58 PM
To: Miles, James <miles.james@epa.gov>
Cc: Neves, Peter <Neves.Peter@epa.gov>; Raack, Pete <Raack.Pete@epa.gov>
Subject: GenX paper

Hi James,

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5

Thanks, Elisabeth

Elisabeth Freed • USEPA/OECA/OSRE/PGB • (202) 564-5117 • freed.elisabeth@epa.gov •

Message

From: Garvey, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DCB64DF923844466ACAC67C1F19EABE0-MGARVEY]
Sent: 8/17/2017 6:40:17 PM
To: Wheeler, Cindy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=76334d08affb44dea16312fd009f8b05-CWheel02]
Subject: FW: GenX - Chemours Authorities Paper
Attachments: Chemours GenX Options Paper 081717.docx

Per request

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

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Sent: Thursday, August 17, 2017 11:01 AM
To: Gordon, Scott <Gordon.Scott@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Nagle, Deborah <Nagle.Deborah@epa.gov>; Thompkins, Anita <Thompkins.Anita@epa.gov>
Cc: Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Baney, Tony <Baney.Tony@epa.gov>; Seltzer, Mark <Seltzer.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>
Subject: GenX - Chemours Authorities Paper

Hi all –

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Please send comments/revisions/questions to Mark Garvey, Greg Sullivan and me.

Thanks in advance!

James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance

U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A
1201 Constitution Ave., NW
Washington, DC 20004
202.564.5161
miles.james@epa.gov

To: Miles, James[miles.james@epa.gov]
Cc: Sullivan, Greg[Sullivan.Greg@epa.gov]
From: Garvey, Mark[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DCB64DF923844466ACAC67C1F19EABE0-MGARVEY]
Sent: Thur 8/17/2017 1:22:17 PM (UTC)
Subject: RE: Chemours GenX Options Paper - Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process /Ex. 5
Chemours GenX Options Paper 081617 Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process /Ex. 5 clean gs edits_js_MG revised.docx

Greg & James,

I'm attaching a revised version to address Greg's edits.

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Thursday, August 17, 2017 8:55 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: Chemours GenX Options Paper - Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process /Ex. 5

Can you address Greg's remaining comments so we can get this out?

From: Speir, Jeffrey
Sent: Thursday, August 17, 2017 8:47 AM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Garvey, Mark <Garvey.Mark@epa.gov>; Raack, Pete <Raack.Pete@epa.gov>
Subject: RE: Chemours GenX Options Paper - Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process /Ex. 5

Thank you, Greg. **Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5**

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Sullivan, Greg
Sent: Wednesday, August 16, 2017 6:31 PM
To: Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Garvey, Mark <Garvey.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Raack, Pete <Raack.Pete@epa.gov>
Subject: RE: Chemours GenX Options Paper - TSCA,SDWA,CWA, RCRA

I had questions and edits on the intro and TSCA sections. Take a look and let me know if these can work.

From: Miles, James
Sent: Wednesday, August 16, 2017 5:35 PM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Garvey, Mark <Garvey.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Raack, Pete <Raack.Pete@epa.gov>
Subject: Chemours GenX Options Paper Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process /Ex. 5

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5

Would you like to do the honors after you review? In terms of timing, it's tight. If we're to get this to Susan and Rosemarie by Friday, we probably need comments by COB tomorrow.

James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A
1201 Constitution Ave., NW
Washington, DC 20004
202.564.5161
miles.james@epa.gov

To: Denton, Loren[Denton.Loren@epa.gov]; King, Carol[King.Carol@epa.gov]; Bahk, Benjamin[Bahk.Benjamin@epa.gov]
Cc: Speir, Jeffrey[speir.jeffrey@epa.gov]; Miles, James[miles.james@epa.gov]
From: Garvey, Mark
Sent: Tue 8/29/2017 4:20:11 PM
Subject: FW: Chemours - Enforcement Coordination Call at 12:30

Ben and Carol,

I was asked to include you on this email.

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Tuesday, August 29, 2017 12:15 PM
To: Miles, James <miles.james@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>; daw, harry <daw.harry@epa.gov>; Gorman, John <Gorman.John@epa.gov>; Klevs, Mardi <klevs.mardi@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Paul Buellesbach <paul.buellesbach@erg.com>; Dan-Tam Nguyen <Dan-Tam.Nguyen@erg.com>; Daryl Hudson <Daryl.Hudson@erg.com>; Schulz, Susan <Schulz.Susan@epa.gov>; DeDora, Caroline <DeDora.Caroline@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Star, David <star.david@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Martinez, Jeffrey <Martinez.Jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Anderson, Kate <Anderson.Kate@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>; Swan, Russell <Swan.Russell@epa.gov>
Cc: Poy, Thomas <poy.thomas@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; rogers, rick <rogers.rick@epa.gov>; Wilson, Jennifer <wilson.jenniferA@epa.gov>; Day, Christopher <Day.Christopher@epa.gov>; Coe, Mary <Coe.Mary@epa.gov>; Ramalho, Louis <Ramalho.Louis@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Unger, LouAnn <unger.louann@epa.gov>; Bair, Rita <bair.rita@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Field, Stephen <Field.Stephen@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>
Subject: RE: Chemours - Enforcement Coordination Call

Agenda for today's call

1) Nomenclature
    a. Ammonium Salt v. Dimer Acid v. Dimer Acid salt
    b. What is in the river and what is GenX?
2) **Enforcement/Investigatory / Ex. 7(a) / Deliberative Process / Ex. 5**
3) Update on CDR numbers
4) **Enforcement/Investigatory / Ex. 7(a) / Deliberative Process / Ex. 5**
5) Region 3 preparations for inspection.

Mark Garvey
EPA Headquarters

Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

-----Original Appointment-----
From: Miles, James
Sent: Thursday, August 03, 2017 4:43 PM
To: Miles, James; Bookman, Robert; Pratt, Stacie; daw, harry; Gorman, John; Klevs, Mardi; Kemker, Carol; Denton, Loren; Paul Buellesbach; Dan-Tam Nguyen; Daryl Hudson; Schulz, Susan; DeDora, Caroline; Davis, Lauren O.; Gordon, Scott; Fite, Mark; George, Verne; Bates, Keith; Mitchell, Ken; Bean, Mark; Toney, Anthony; Doa, Maria; Star, David; Garvey, Mark; Tucker, Marlene; Ellis, Tony; Sullivan, Greg; Saenz, Diana; Martinez, Jeffrey; King, Carol; Anderson, Kate; Henry, Tala; Allison, Rose; Swan, Russell
Cc: Poy, Thomas; Speir, Jeffrey; Collins, Charlie; Aubee, Catherine; rogers, rick; Wilson, Jennifer; Day, Christopher; Coe, Mary; Ramalho, Louis; Harris, Kimberly; Unger, LouAnn; Bair, Rita; Shoven, Heather; Clark, Jacqueline; Duchovnay, Andrew; Field, Stephen
Subject: Chemours - Enforcement Coordination Call
When: Tuesday, August 29, 2017 12:30 PM-1:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Personal Phone / Ex. 6

Setting up a reoccurring bi-weekly call through Sept. for this matter, per 7/31/17 discussion

From: Gordon, Scott[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1FAD8601408B41F3A56E6FFA976518A8-GORDON, JAMES]

Location: 12B call in Personal Phone / Ex. 6

Importance: Normal

Subject: Accepted: GenX Inspection Planning

Start Time: Tue 6/13/2017 6:00:00 PM (UTC)

End Time: Tue 6/13/2017 7:00:00 PM (UTC)

Required Attendees: Kemker, Carol

From:	France, Danny[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=2EA6B0627F864F7AA4B237DB0D581671-FRANCE, DANNY]
Location:	12B call in Personal Phone / Ex. 6
Importance:	Normal
Subject:	Accepted: GenX Inspection Planning
Start Time:	Tue 6/13/2017 6:00:00 PM (UTC)
End Time:	Tue 6/13/2017 7:00:00 PM (UTC)
Required Attendees:	Kemker, Carol

From: Microsoft Outlook[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=MICROSOFTEXCHANGE329E71EC88AE4615BBC36AB6CE41109EF7088051]

Location: 12B call in Personal Phone / Ex. 6

Importance: Normal

Subject: Meeting Forward Notification: GenX Inspection Planning

Start Time: Tue 6/13/2017 6:00:00 PM (UTC)

End Time: Tue 6/13/2017 7:00:00 PM (UTC)

Required Attendees: Kemker, Carol

Your meeting was forwarded

Gettle, Jeaneanne has forwarded your meeting request to additional recipients.

Required Attendees: Kemker, Carol

Meeting

GenX Inspection Planning

Required Attendees: Kemker, Carol
Required Attendees: Kemker, Carol

Meeting Time

Tuesday, June 13, 2017 2:00 PM-3:00 PM.

Required Attendees: Kemker, Carol
Required Attendees: Kemker, Carol

Recipients

Sivertsen, Scott

Required Attendees: Kemker, Carol

All times listed are in the following time zone: (UTC-05:00) Eastern Time (US & Canada)

Sent by Microsoft Exchange Server

From: Bookman, Robert[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1E8DB468531A44949EEC31F94DB4F002-BOOKMAN, ROBERT]

Location: 12B call in **Personal Phone / Ex. 6**

Importance: Normal

Subject: Accepted: GenX Inspection Planning

Start Time: Tue 6/13/2017 6:00:00 PM (UTC)

End Time: Tue 6/13/2017 7:00:00 PM (UTC)

Required Attendees: Kemker, Carol

From:	Hall, Renea[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7E6FA15B05C0453DA3CAE5DACDB93574-HALL, RENEA]
Location:	12B call in Personal Phone / Ex. 6
Importance:	Normal
Subject:	Accepted: GenX Inspection Planning
Start Time:	Tue 6/13/2017 6:00:00 PM (UTC)
End Time:	Tue 6/13/2017 7:00:00 PM (UTC)
Required Attendees:	Kemker, Carol

To: Mitchell, Ken[Mitchell.Ken@epa.gov]; Kemker, Carol[Kemker.Carol@epa.gov]
From: George, Verne[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8D8C394177AF44B28B4CE452BCCBC851-GEORGE, VERNE]
Sent: Wed 11/29/2017 10:08:42 PM (UTC)
Subject: FW: Draft GenX Paper for OECA Briefing With Enforcement/Investigatory / Ex. 7(a)
Chemours GenX Briefing Paper 112817 for Dec 4.docx

This is Mark Garvey's initial email.

From: Garvey, Mark
Sent: Tuesday, November 28, 2017 5:25 PM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; George, Verne <George.Verne@epa.gov>; Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA

To Region 4 TSCA & Water teams,

I'm attaching a revised version of the briefing paper Jeff Speir sent earlier today. It now includes Enforcement/Investigatory / Ex. 7(a) along with a few sentences mentioning the Regions 3 and 2 involvement. After speaking with my Division Director this afternoon, this effort appears to be an extremely heavy lift to get ready by Thursday for my Office Director. While I'm still requesting comments by Thursday at noon, we will be talking with our Office Director tomorrow morning to see if there is any flexibility in the scheduling of the briefing paper. There are a lot of fast moving details here and we want to be accurate with Susan Bodine.
We will also be asking about the level of participation at the Susan Bodine meeting. We anticipate that each Region will be asked to participate. We can discuss this on Thursday afternoon's GenX bi-weekly general discussion that James Miles set up.

Please note that this is not a meeting requesting senior management direction, but rather an informational briefing for Susan Bodine.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Speir, Jeffrey
Sent: Tuesday, November 28, 2017 12:08 PM
To: Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Draft GenX Paper for OECA Briefing

Hello, Region 4 Water Team:

The Director of the Office of Civil Enforcement at Headquarters has requested that we brief OECA leadership on GenX. The briefing will be for Larry Starfield, Patrick Traylor, and Susan Bodine, the Administrator's counsel for enforcement who has expressed

interest in this matter. The briefing is scheduled for Monday, December 4 at 2:00 pm. Note: This briefing is not a request for an OECA decision; rather, it is a presentation of the issues and our federal authorities.

We have prepared the attached draft briefing paper. It somewhat resembles a briefing paper you likely saw in August, with more emphasis on background facts and the State's actions, and less emphasis on enforcement "options." My counterpart in our Enforcement/Investigatory / Ex. 7(a) division will send his updates to the relevant Region 4 Enforcement/Investigatory / Ex. 7(a) folks.

Unfortunately, the deadline to send up the briefing paper is tight. Please provide any feedback you may have to me and Mark Garvey (cc'd) by Thursday, November 30 at noon. I apologize about the timing.

Please let me know if you have any questions or if you would like to discuss this further.

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

Message

From: Gordon, Scott [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1FAD8601408B41F3A56E6FFA976518A8-GORDON, JAMES]
Sent: 8/22/2017 7:55:26 PM
To: Wilkes, Mary [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4795fd5f903446098f7344aee7402ceb-Wilkes, Mary]; Walker, Mary [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=Walker, Mary S.]; Kemker, Carol [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=765ad99166db4233bd15febf6e9917b3-Kemker, Carol]; Toney, Anthony [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b977b6c39557465c8e1840a451687ae4-Toney, Anthony]; Bookman, Robert [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1e8db468531a44949eec31f94db4f002-Bookman, Robert]; Rubini, Suzanne [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1bd777d6ab434a339122bfdd62491d0c-Rubini, Suzanne]
Subject: FW: REVISED AGENDA
Attachments: Chemours GenX Authorities Paper 082117.docx

From: Schwartz, Paul
Sent: Tuesday, August 22, 2017 3:54 PM
To: Hansen, Susan <Hansen.Susan@epa.gov>; Nowell, Valerie <Nowell.Valerie@epa.gov>; Bush, William <Bush.William@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Mancusi-Ungaro, Philip <Mancusi-Ungaro.Philip@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>
Subject: FW: REVISED AGENDA

From: Speir, Jeffrey
Sent: Tuesday, August 22, 2017 3:17 PM
To: Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>
Subject: RE: REVISED AGENDA

I have attached the version of the enforcement options paper that went to Larry Starfield in advance of today's meeting.

Unfortunately, due to office absences last week, Region 4's edits sent through Scott Gordon did not get incorporated. The attached version also includes input from Water Enforcement Division management. We can discuss Region 4's input on today's call.

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Speir, Jeffrey
Sent: Tuesday, August 22, 2017 10:43 AM

To: Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>
Subject: FW: REVISED AGENDA

Hi Paul and Karrie-Jo,

Please find attached the call-in information for an OECA meeting this afternoon at 4:30 on GenX. As I mentioned to you, Paul, Susan Shinkman (OCE Director) requested Region 4's participation on today's call. Karrie-Jo, this is the meeting that I mentioned on our call earlier, that thought was scheduled for earlier today. Please feel free to disseminate this meeting invitation in Region 4. Mark Pollins has contacted Scott Gordon in enforcement.

The discussion will cover the enforcement options paper that (I hope) reached you both last week. I can recirculate a revised draft to you if I receive an updated version.

Please let me know if you have questions—sorry for the late notice!

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Pollins, Mark
Sent: Tuesday, August 22, 2017 10:30 AM
To: Gordon, Scott <Gordon.Scott@epa.gov>
Cc: Fergusson, Bruce <Fergusson.Bruce@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: FW: REVISED AGENDA

Scott, left you a VM.

Mark Pollins, Director
Water Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance (OECA)
U.S. Environmental Protection Agency
Phone: (202) 564-4001
Fax: (202) 564-0018

From: Washington, Debra
Sent: Monday, August 21, 2017 3:42 PM
To: Bailey, Ethel <Bailey.Ethel@epa.gov>; Benitez-Clark, Rowena <benitez-clark.rowena@epa.gov>; Brooks, Phillip <Brooks.Phillip@epa.gov>; Cherry, Andrew <Cherry.Andrew@epa.gov>; Fogarty, Johnpc <Fogarty.Johnpc@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>; Miles, Erin <Miles.Erin@epa.gov>; Miles, James <miles.james@epa.gov>; Miller, Anthony <Miller.Anthony@epa.gov>; Ng, Brian <Ng.Brian@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Schefski, Melissa <Schefski.Melissa@epa.gov>; Senn, John <Senn.John@epa.gov>; Shiffman, Cari <Shiffman.Cari@epa.gov>; Shinkman, Susan <Shinkman.Susan@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Traylor, Patrick <traylor.patrick@epa.gov>; Belser, Evan <Belser.Evan@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Chapman, Apple <Chapman.Apple@epa.gov>; Crossland, Andy <Crossland.Andy@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Fried, Gregory <Fried.Gregory@epa.gov>; Theis, Joseph

<Theis.Joseph@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Lott, Don <Lott.Don@epa.gov>; McCray, Deborah <Mccray.Deborah@epa.gov>; Porter, Amy <Porter.Amy@epa.gov>; Stedeford, Todd <Stedeford.Todd@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>
Subject: REVISED AGENDA

Please review and print your copy of the agenda and materials for the OCE Weekly.

To: Banister, Beverly[Banister.Beverly@epa.gov]
Cc: Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Kemker, Carol[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=765AD99166DB4233BD15FEBF6E9917B3-KEMKER, CAROL]
Sent: Wed 11/29/2017 10:09:23 PM (UTC)
Subject: FW: Update on Timing & Attendance Draft GenX Paper for OECA Briefing With Enforcement/Investigatory / Ex. 7(a)
Chemours GenX Briefing Paper 112817 for Dec 4.docx

Beverly,

There is a briefing Monday for Larry Starfield and Susan Bodine. Mark Garvey circulated the draft briefing paper to Verne, Robert and Tony this morning. Verne review and provided comments. Ken and I are looking at it now and will get you up to speed. I am assuming you will want to be on the call. I have asked Mark Fite to work with OECA to get us added to the invitation.

Carol

From: Fite, Mark
Sent: Wednesday, November 29, 2017 4:26 PM
To: Gordon, Scott <Gordon.Scott@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>
Subject: FW: Update on Timing & Attendance Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA
Importance: High

FYI... Wanted to make sure the appropriate managers and staff are available to participate in the Susan Bodine briefing Monday, 12/4 at 2 PM, although OECA is looking into possibly rescheduling.

Mark J. Fite
Technical Authority for CAA, TSCA, FIFRA, & EPCRA
Office of Enforcement Coordination
U.S. EPA Region 4
61 Forsyth St., SW
Atlanta, GA 30303
fite.mark@epa.gov
404.562.9740

From: Garvey, Mark
Sent: Wednesday, November 29, 2017 3:15 PM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; George, Verne <George.Verne@epa.gov>; Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>
Subject: RE: Update on Timing & Attendance Draft GenX Paper for OECA Briefing With Enforcement/Investigatory / Ex. 7(a)

To the Chemours Briefing Team,

We spoke with Rosemarie Kelley today about timing of the GenX briefing and about the level of participation.

Timing

- OECA still wants comments by noon tomorrow since we don't have a confirmed time to reschedule the briefing. We are checking to see if there is another time available for Susan Bodine, but right now we need to plan to get a paper up to her by noon on Friday in case the briefing is Monday.

Level of Attendance

- There should be Region 4 managers in attendance who are involved in the day to day activities happening with N.C. and the Chemours facility. Regions 2 & 3 should have staff on the phone in case there are questions, but this will focus mostly on Region 4. To provide the detail often asked for, a Division Director or Branch Chief (their staff in the room) is requested who can answer with specific detail about what has happened as recently as the day of the briefing. This is not a briefing to

obtain an option selection or guidance, but rather to provide Susan Bodine with a thorough understanding of what's going on.

We can discuss this more tomorrow at the 2:00 GenX Coordinating call.

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Tuesday, November 28, 2017 5:25 PM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; George, Verne <George.Verne@epa.gov>; Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With Enforcement/Investigatory / Ex. 7(a)

To Region 4 TSCA & Water teams,

I'm attaching a revised version of the briefing paper Jeff Speir sent earlier today. It now includes Enforcement/Investigatory / Ex. 7(a) along with a few sentences mentioning the Regions 3 and 2 involvement. After speaking with my Division Director this afternoon, this effort appears to be an extremely heavy lift to get ready by Thursday for my Office Director. While I'm still requesting comments by Thursday at noon, we will be talking with our Office Director tomorrow morning to see if there is any flexibility in the scheduling of the briefing paper. There are a lot of fast moving details here and we want to be accurate with Susan Bodine.
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Please let me know if you have any questions or if you would like to discuss this further.

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Attorney-Adviser
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OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

To: George, Verne[George.Verne@epa.gov]
From: Kemker, Carol[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=765AD99166DB4233BD15FEBF6E9917B3-KEMKER, CAROL]
Sent: Wed 11/29/2017 10:01:31 PM (UTC)
Subject: FW: Update on Timing & Attendance Draft GenX Paper for OECA Briefing With Enforcement/Investigatory / Ex. 7(a)
Chemours GenX Briefing Paper 112817 for Dec 4.docx

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Importance: High

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Mark J. Fite
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Sent: Wed 11/29/2017 9:45:08 PM (UTC)
Subject: FW: Update on Timing & Attendance Draft GenX Paper for OECA Briefing With Enforcement/Investigatory / Ex. 7(a)
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Did you have an opportunity to review the TSCA portion of the briefing paper? Also, are you available to participate on the call Monday at 2:00?

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Sent: Tue 11/28/2017 7:16:28 PM (UTC)
Subject: FW: Draft GenX Paper for OECA Briefing
Chemours GenX Briefing Paper 112817.docx

Jeaneanne and Danny,

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Carol

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Do you have time to collect APTMD's comments on this paper?

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To: Shinkman, Susan[Shinkman.Susan@epa.gov]
Cc: Miles, James[miles.james@epa.gov]; Sullivan, Greg[Sullivan.Greg@epa.gov]
From: Pollins, Mark[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=591F52A6CC074A2394FB5DDC306C2FD7-MPOLLINS]
Sent: Tue 8/22/2017 5:30:43 PM (UTC)
Subject: FW: GenX - Chemours Authorities Paper
Chemours GenX Options Paper 081717.docx mt R4 edits.docx

Here's Scott's markup.

Mark Pollins, Director
Water Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance (OECA)
U.S. Environmental Protection Agency
Phone: (202) 564-4001
Fax: (202) 564-0018

From: Gordon, Scott
Sent: Tuesday, August 22, 2017 11:46 AM
To: Pollins, Mark <Pollins.Mark@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: FW: GenX - Chemours Authorities Paper

Mark,

Looks like our edits did not make it into the draft for your meeting today with Larry.

Thanks,
Scott

From: Gordon, Scott
Sent: Monday, August 21, 2017 8:46 AM
To: Miles, James <miles.james@epa.gov>
Subject: RE: GenX - Chemours Authorities Paper

James,

Here are the R4 suggested edits. Please let me know when the next version is ready for discussion. Enforcement/Investigatory / Ex. 7(a) / Deliberative Process /Ex. 5

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process /Ex. 5

Thanks,

Scott

From: Miles, James
Sent: Thursday, August 17, 2017 11:01 AM
To: Gordon, Scott <Gordon.Scott@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Nagle, Deborah <Nagle.Deborah@epa.gov>; Thompkins, Anita <Thompkins.Anita@epa.gov>
Cc: Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Baney, Tony <Baney.Tony@epa.gov>; Seltzer, Mark <Seltzer.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>
Subject: GenX - Chemours Authorities Paper

Hi all –

As discussed earlier in the week, please find attached a draft paper discussing the pertinent enforcement and regulatory authorities to respond to the GenX situation. We're especially seeking comments from our program counterparts on the regulatory front.

In terms of timing, our OCE OECA Office Director would like to have a draft by COB Friday. For us to incorporate your comments, we would need them at the latest by **10AM tomorrow**. Apologies for the tight turnaround, but we'll continue to work closely with you even after the draft moves forward.

Please send comments/revisions/questions to Mark Garvey, Greg Sullivan and me.

Thanks in advance!

James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A
1201 Constitution Ave., NW
Washington, DC 20004
202.564.5161
miles.james@epa.gov

Message

From: Miles, James [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=6C27D6E7B72E48508EF8AE5768CCAAD3-JMILES]
Sent: 5/29/2018 5:26:12 PM
To: Seltzer, Mark [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1f81d6fc209b46cc8403097548fc3930-Seltzer, Mark]
BCC: Miles, James [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6c27d6e7b72e48508ef8ae5768ccaad3-JMiles]
Subject: FW: Citizen Suit Notice (CWA/TSCA)
Attachments: CapeFearRiverWatch v Chemours_NC.doc; CapeFearRiverWatch v Chemours_NC.pdf

Importance: High

Hi –

Remind me how we handled the Sussman citizen suit pursuant to TSCA section 20. The notice requirement is 60 days to the Agency. We need to show we are diligently prosecuting....etc.

From: Kemker, Carol
Sent: Friday, May 18, 2018 6:10 PM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; George, Verne <George.Verne@epa.gov>
Subject: FW: Citizen Suit Notice (CWA/TSCA)
Importance: High

Greg and James,

Wanted to make sure you all have a copy of the NOIs. Let's discuss the timing for the case development.

Carol

From: Toney, Anthony
Sent: Friday, May 18, 2018 12:32 PM
To: Bookman, Robert <Bookman.Robert@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>
Cc: George, Verne <George.Verne@epa.gov>
Subject: FW: Citizen Suit Notice (CWA/TSCA)
Importance: High

FYI.

From: Bullock, Patricia
Sent: Friday, May 18, 2018 9:45 AM
To: Moore, Yvonne <Moore.Yvonne@epa.gov>; Jones, Laurie <JONES.LAURIE@EPA.GOV>
Cc: O'Lone, Dan <Olone.Dan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>
Subject: Citizen Suit Notice (CWA/TSCA)
Importance: High

Attached are NOIs for both CWA and TSCA statues (hard copies were forwarded via interoffice mail). Please review and forward back via word document and interoffice mail by due date.

Thank you,

Pat

Message

From: Miles, James [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=6C27D6E7B72E48508EF8AE5768CCAAD3-JMILES]
Sent: 8/17/2017 8:10:43 PM
To: Freed, Elisabeth [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a3b6b41a37494cfba37f4118a48c43af-EFREED]
Subject: Fw: GenX - Chemours Authorities Paper
Attachments: Chemours GenX Options Paper 081717.docx

Hi Elisabeth - this is enforcement confidential so please do not distribute widely. I would be interested in seeing OSRE's emerging contaminants paper too.

James

To: Lincoln, Larry[Lincoln.Larry@epa.gov]
Cc: Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Mitchell, Ken
Sent: Mon 12/11/2017 9:34:35 PM
Subject: FW: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 2pm & Briefing Paper attached
OCE Weekly AA-DAA 12112017.pdf

Here is the briefing paper....sorry I didn't see your email sooner.

Kenneth L. Mitchell, Ph.D. |Special Assistant to the Director|
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency |61 Forsyth Street, SW |Atlanta, GA 30303
Voice: 404-562-9065 |Fax: 404-562-9066|Email: mitchell.ken@epa.gov

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From: Garvey, Mark
Sent: Saturday, December 09, 2017 12:15 AM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Cc: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Rog, Morgan <Rog.Morgan@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Nowell, Valerie <Nowell.Valerie@epa.gov>; Hansen, Susan <Hansen.Susan@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; George, Verne <George.Verne@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>
Subject: RE: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 2pm & Briefing Paper attached

There are conflicting times for the Monday meeting. The agenda from the front office says 1pm and the invite from the front office says 2.
My management believes it is **scheduled for 2pm on Monday** and the agenda has the wrong time. The attachment also has the final GenX briefing paper below the item below the agenda.

Sorry for the confusion. We'll try to clarify things on Monday.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information,
attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark

Sent: Friday, December 08, 2017 3:15 PM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Cc: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Rog, Morgan <Rog.Morgan@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Nowell, Valerie <Nowell.Valerie@epa.gov>; Hansen, Susan <Hansen.Susan@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Strynar, Mark <strynar.mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; George, Verne <George.Verne@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>
Subject: RE: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 1pm

Attached is the agenda for the **Monday ** 1pm Susan Bodine Briefing**

It is part of the weekly OCE meeting with the AA.

OCE Weekly w/AA/DAA/PDAA, call in number Personal Phone / Ex. 6

Region 4 will be joined by Regions 2, 3 and 5 on the call.

I'll send the final briefing paper when it becomes available.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.govcl

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: George, Verne[George.Verne@epa.gov]
Cc: Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Mitchell, Ken
Sent: Mon 1/29/2018 4:18:22 PM
Subject: Chemours Spills

FW: [External] Chemours DAF Spill
FW: [External] Chemours DAF Spill
RE: [External] Chemours DAF Spill
FW: [External] Chemours DAF Spill
FW: [External] Chemours DAF Spill
FW: [External] Chemours DAF Spill
FW: [External] Chemours DAF Spill
FW: Chemours - NOV
FW: DEQ investigating air emissions leak at Chemours
RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
Advanced Notice: Press Release Attached "State moves to revoke Chemours' permit to discharge processed wastewater"
FW: Advanced Notice: Press Release Attached "State moves to revoke Chemours' permit to discharge processed wastewater"
RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
FW: Most recent info from NC on investigation of release
FW: Chemours - NOV
FW: [External] Chemours - October 6th Spill
RE: Most recent info from NC on investigation of release
FW: Most recent info from NC on investigation of release
RE: [External] FW: Chemours
Air Release at Chemours -- FYI
FW: [External] Chemours - October 6th Spill
FW: Chemours - NOV
FW: Most recent info from NC on investigation of release
RE: Spill in Vinyl Ethers South area - FW: [External] Chemours Outfall 002 Analytical results - October
Spill in Vinyl Ethers South area - FW: [External] Chemours Outfall 002 Analytical results - October

To: Miles, James[miles.james@epa.gov]; Garvey, Mark[Garvey.Mark@epa.gov]; Doa, Maria[Doa.Maria@epa.gov]; Aubee, Catherine[Aubee.Catherine@epa.gov]; Moyer, Adam[moyer.adam@epa.gov]
Cc: Bookman, Robert[Bookman.Robert@epa.gov]; Toney, Anthony[Toney.Anthony@epa.gov]; Kemker, Carol[Kemker.Carol@epa.gov]; George, Verne[George.Verne@epa.gov]; Allenbach, Becky[Allenbach.Becky@epa.gov]; Banister, Beverly[Banister.Beverly@epa.gov]; Mitchell, Ken[Mitchell.Ken@epa.gov]; Jones, Aaryn[Jones.Aaryn@epa.gov]; Walker, Mary[walker.mary@epa.gov]
From: Mitchell, Ken
Sent: Thur 11/16/2017 9:35:32 PM
Subject: Advanced Notice: Press Release Attached "State moves to revoke Chemours*permit to discharge processed wastewater"
Actions 111617.docx

Just to let you know, the state is moving to revoke Chemours' NPDES permit for processed wastewater. Please see the attached advanced press release. It will be posted on the state's website shortly:

https://deq.nc.gov/news/hot-topics/genx-investigation/genx-news-releases

---

Kenneth L. Mitchell, Ph.D. | Special Assistant to the Director |
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303
Voice: 404-562-9065 | Fax: 404-562-9066 | Email: mitchell.ken@epa.gov

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Michael S. Regan, Secretary

Environmental Quality

Release: IMMEDIATE
Date: Nov. 16, 2017

Contact: Jamie Kritzer
Phone: 919-707-8602

State moves to revoke Chemours' permit to discharge processed wastewater

RALEIGH – The N.C. Department of Environmental Quality announced today it is moving to revoke Chemours' permit to discharge process wastewater because the company failed to comply with its permit and failed to report an October spill.

In addition to moving to revoke Chemours wastewater permit, DEQ officials also notified Chemours the state will suspend its permit to discharge process wastewater from its manufacturing area including the areas where GenX and other fluorinated compounds are produced. The suspension will take effect Nov. 30. Chemours is still required by the state to divert wastewater containing GenX and transport it out-of-state for disposal.

The notifications came in a letter DEQ sent to Chemours Thursday.

"It is unacceptable that Chemours has failed to disclose information required by law, information we need in order to protect the public," said Michael S. Regan, secretary of the N.C. Department of Environmental Quality "We're taking action to suspend Chemours' wastewater permit and moving to permanently revoke it because the company has repeatedly failed to follow the law."

DEQ is referring its probe of the Oct. 6 spill to the State Bureau of Investigation to determine if there is evidence of criminal violations for not reporting the spill as required by law.

The revocation of Chemours' permit to discharge process wastewater from its manufacturing areas will take effect after the required 60 day notice to Chemours and public participation in the permit process. The revocation does not apply to process wastewater from Kuraray and Dupont facilities that is treated and discharged by Chemours under the wastewater discharge permit.

Earlier this week, DEQ cited Chemours with violating the conditions of its wastewater discharge permit because of the company's failure to report an Oct. 6 spill. The spill came to light one month after it occurred when DEQ officials questioned Chemours about state water quality results indicating elevated concentrations of GenX at Chemours' primary wastewater discharge outfall.

Chemours wastewater discharge permit requires that DEQ be notified within 24 hours of any discharge of significant amounts of waste that are abnormal in quantity or characteristic, as well as any non-compliance that potentially threatens public health or the environment.

DEQ determined that Chemours' violation of the reporting requirements in the permit following the Oct. 6 spill are sufficient basis for the revocation of the permit to discharge process wastewater. DEQ will continue to collect and test water samples from the Cape Fear River including at the Chemours outfall.

# # #

ED_002003F_00056592-00001

To: George, Verne[George.Verne@epa.gov]; Bookman, Robert[Bookman.Robert@epa.gov]; Toney, Anthony[Toney.Anthony@epa.gov]; Rinck, Todd[Rinck.Todd@epa.gov]
Cc: Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Mitchell, Ken
Sent: Tue 11/14/2017 3:02:06 PM
Subject: Air Release at Chemours -- FYI
FW: [External] Chemours - October 6th Spill
FW: Chemours - NOV

See attached FYI.

To: Allenbach, Becky[Allenbach.Becky@epa.gov]; Kemker, Carol[Kemker.Carol@epa.gov]; Mitchell, Ken[Mitchell.Ken@epa.gov]; Banister, Beverly[Banister.Beverly@epa.gov]
Cc: Buckley, Timothy[Buckley.Timothy@epa.gov]
From: Culpepper, Linda
Sent: Mon 11/13/2017 11:37:52 PM
Subject: FW: [External] Chemours - October 6th Spill
Chemours 11-2-2017 site visit.docx

Sharing the inspection information with you as well.

Linda Culpepper
Acting Director
Division of Water Resources
North Carolina Department of Environmental Quality

1611 Mail Service Center
Phone: 919-707-9014

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From: Culpepper, Linda
Sent: Monday, November 13, 2017 6:37 PM
To: 'Janovitz, Sara' <Janovitz.Sara@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>
Subject: RE: [External] Chemours - October 6th Spill

Sara – I apologize I left a conference and have been in meetings the remainder of the day. I've attached the inspection report to help with the description. I have time between noon-1pm tomorrow if you would still like to talk.

Linda Culpepper
Acting Director
Division of Water Resources
North Carolina Department of Environmental Quality

1611 Mail Service Center
Phone: 919-707-9014

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From: Janovitz, Sara [mailto:Janovitz.Sara@epa.gov]
Sent: Monday, November 13, 2017 1:09 PM
To: Culpepper, Linda <linda.culpepper@ncdenr.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>
Subject: [External] Chemours - October 6th Spill

CAUTION: External email. Do not click links or open attachments unless verified. Send all suspicious email as an attachment to report.spam@nc.gov.

Linda-

I hope you're doing well. I just left you a voicemail, but I wanted to follow-up with an email in case you have your computer. I've gotten some questions on the October 6th Chemours spill, so I am looking for some additional information on it. I've heard a couple different versions of what caused the spill (including that it was an air release). I also wanted to see if/what action DEQ is taking against Chemours for the spill/increased GenX concentrations.

Please give me a call when you have a chance. You can reach me at 404.895.7933.

Thanks!

Sara Schiff Janovitz

Environmental Engineer
US EPA - Region 4
61 Forsyth Street, SW
Atlanta, GA 30303
P: (404) 562-9870
F: (404) 562-9729

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Email Excerpt from Christel Compton on 11/1/17:
As requested, please find below the preliminary Outfall 002 data thus far for October. I received these preliminary results this morning and we are still evaluating the potential reasons for the increase. Based on our preliminary review, the primary reason likely was a 10/6 spill of scrubber water in the Vinyl Ethers South area, followed by rain events on 10/7, 10/8, and 10/9 that resulted in stormwater carrying residual C3 dimer acid from the 10/6 incident to Outfall 002.

The site collected additional samples on October 17 and we will provide you those results as soon as we receive them from Test America. We also will be switching back to 1-day grab or composite samples for future sampling for the time being and will provide you those results as well as soon as we receive them from Test America.

Outfall 002 Preliminary Results		
Sample Date	C3 Dimer Acid Result (ppt)	1-day Grab or 3-day Composite?
10/2	35	Grab
10/3	65	Grab
10/5	69	Grab
10/6	250	Grab
10/9	3,700	Composite
10/12	740	Composite
10/16	380	Composite

Site inspection by Trent Allen, Fayetteville Regional Office Supervisor for Water Quality Operations
I was out at Chemours on Friday 11/3/2017to find out what happened on 10/6/2017 that caused a spike in the C3 Dimer Acid sample results. I met with Mike Johnson, Christel Compton, and Kevin Dunham. I inspected several areas of the plant that were a concern after process sampling on 9/18/2017.

The first area we visited was the Sodium Conversion tank. This flow is now sent to a tank for pH adjustment, and then captured in a frack tank. The frack tank is then off loaded and sent out for incineration. The picture below shows this process.

The next area we visited was the IXM polymer site. The IXM polymer wastewater is now captured in the temporary frack tank. Once this tank is full, it is off loaded and sent out for incineration. All the frack tanks have secondary containment. The picture below shows this process.

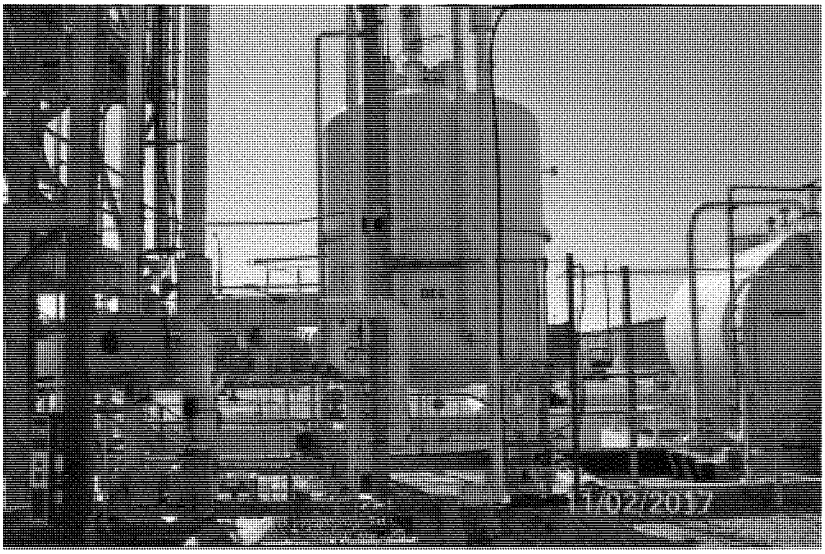
The third area we visited was the Vinyl Ethers South Stack. This is the area that the spill occurred. Chemours thinks the spill occurred due to the decontamination process of blowing out the Dimer Acid Fluoride line for vapor space. This caused the Dimer Acid to vent to the scrubber causing the Acid to foam. The foam was then vented out of the South Stack. Due to not having enough vapor space in the acid line and the differential pressure being raised and lowered manually for the decontamination process, Dimer Acid was vented to the scrubber. This happened during the Company shutdown when some lines where being manually activated and deactivated to decontaminate the scrubber.

To prevent this from happening in the future, there will be a system in place to verify the liquid full line has been purged. The old system was to purge for 10 minutes, which may not have been enough. There will be training with the operators to limit flows or stop the flow altogether if they see swings in the differential pressure. The pictures below show the scrubber and stack. The Dimer Acid came out of the top of the stack like an aerosol and landed on the ground around the water channel that discharges from Outfall 002. Rains following the discharge on 10/7, 10/8, and 10/9 also washed the leftover residual into the stream.

To the left is the Vinyl Ethers South Scrubber and to the right is the Stack the Dimer Acid discharged from.

The stream you see to the right is beside the stack that had the discharge. This stream discharges to Discharge 002.

The forth area we visited was the DEG Tank area. Waste water from this area is now captured, and sent out for incineration. The sump adjacent to this tank (Products Sump) has been cleaned out. The picture below shows this area.


17/02/2017

To: Janovitz, Sara[Janovitz.Sara@epa.gov]; Allenbach, Becky[Allenbach.Becky@epa.gov]; Kemker, Carol[Kemker.Carol@epa.gov]; Mitchell, Ken[Mitchell.Ken@epa.gov]; Banister, Beverly[Banister.Beverly@epa.gov]
Cc: Buckley, Timothy[Buckley.Timothy@epa.gov]
From: Culpepper, Linda
Sent: Mon 11/13/2017 11:34:15 PM
Subject: FW: Chemours - NOV
DOC111317-11132017175559.pdf

NOV for spill is attached.

Linda Culpepper
Acting Director
Division of Water Resources
North Carolina Department of Environmental Quality

1611 Mail Service Center
Phone: 919-707-9014

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-----Original Message-----
From: Culpepper, Linda
Sent: Monday, November 13, 2017 5:05 PM
To: 'ellis.h.mcgaughy@chemours.com' <ellis.h.mcgaughy@chemours.com>; Johnson, Michael E <MICHAEL.E.JOHNSON@chemours.com>
Cc: Allen, Trent <trent.allen@ncdenr.gov>
Subject: Chemours - NOV

Forwarding the attached file. The original will be sent via Certified Mail.

Linda Culpepper
Acting Director
Division of Water Resources
North Carolina Department of Environmental Quality

1611 Mail Service Center
Phone: 919-707-9014

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To: George, Verne[George.Verne@epa.gov]
From: Mitchell, Ken
Sent: Thur 1/18/2018 3:49:47 PM
Subject: FW: [External] Chemours DAF Spill
Ltr. from C.Compton Chemours to T. Allen DEQ (01.14.18 spill).pdf

Kenneth L. Mitchell, Ph.D. |Special Assistant to the Director|
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency |61 Forsyth Street, SW |Atlanta, GA 30303
Voice: 404-562-9065 |Fax: 404-562-9066|Email: mitchell.ken@epa.gov

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From: Kemker, Carol
Sent: Wednesday, January 17, 2018 4:49 PM
To: Doa, Maria <Doa.Maria@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Gettle, Jeaneanne <Gettle.Jeaneanne@epa.gov>; Mundrick, Doug <Mundrick.Doug@epa.gov>; France, Danny <France.Danny@epa.gov>
Cc: Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: FW: [External] Chemours DAF Spill

FYI

From: Culpepper, Linda [mailto:linda.culpepper@ncdenr.gov]
Sent: Wednesday, January 17, 2018 4:41 PM
To: Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Barkas, Jessica <barkas.jessica@epa.gov>
Subject: FW: [External] Chemours DAF Spill

Forwarding the latest release information.

Linda Culpepper
Interim Director
Division of Water Resources
North Carolina Department of Environmental Quality

1611 Mail Service Center
Phone: 919-707-9014

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From: Compton, Christel E [mailto:CHRISTEL.E.COMPTON@chemours.com]
Sent: Monday, January 15, 2018 3:53 PM
To: Allen, Trent <trent.allen@ncdenr.gov>
Cc: Culpepper, Linda <linda.culpepper@ncdenr.gov>; Lane, Bill F <Bill.Lane@ncdenr.gov>; Ghiold, Joe <joe.ghiold@ncdenr.gov>; Gross, Joel M. <Joel.Gross@apks.com>; Howard, Jason J. <rmlevene@wlrk.com>
Subject: [External] Chemours DAF Spill

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Dear Mr. Allen –

Please find attached an electronic copy of the written notification of the Waste Tank Farm HFPO Dimer Acid Fluoride spill that occurred at this facility on January 14, 2018. Please let me know if you have any questions.

Thank you –

Christel

Christel Compton
Program Manager
The Chemours Company – Fayetteville Works
(o) 910-678-1213
(m) Personal Phone / Ex. 6

The Chemours Company FC, LLC
22828 NC Highway 87 W
Fayetteville, NC 28306-7332

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Francais Italiano Deutsch Portuges Espanol Japanese Chinese Korean

https://www.chemours.com/Chemours_Home/en_US/email_disclaimer.html

To: Doa, Maria[Doa.Maria@epa.gov]; Henry, Tala[Henry.Tala@epa.gov]; Moyer, Adam[moyer.adam@epa.gov]; Gettle, Jeaneanne[Gettle.Jeaneanne@epa.gov]; Mundrick, Doug[Mundrick.Doug@epa.gov]; France, Danny[France.Danny@epa.gov]
Cc: Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Kemker, Carol
Sent: Wed 1/17/2018 9:49:05 PM
Subject: FW: [External] Chemours DAF Spill
Ltr. from C.Compton Chemours to T. Allen DEQ (01.14.18 spill).pdf

FYI

From: Culpepper, Linda [mailto:linda.culpepper@ncdenr.gov]
Sent: Wednesday, January 17, 2018 4:41 PM
To: Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Barkas, Jessica <barkas.jessica@epa.gov>
Subject: FW: [External] Chemours DAF Spill

Forwarding the latest release information.

Linda Culpepper
Interim Director
Division of Water Resources
North Carolina Department of Environmental Quality

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Phone: 919-707-9014

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From: Compton, Christel E [mailto:CHRISTEL.E.COMPTON@chemours.com]
Sent: Monday, January 15, 2018 3:53 PM
To: Allen, Trent <trent.allen@ncdenr.gov>
Cc: Culpepper, Linda <linda.culpepper@ncdenr.gov>; Lane, Bill F <Bill.Lane@ncdenr.gov>; Ghiold, Joe <joe.ghiold@ncdenr.gov>; Gross, Joel M. <Joel.Gross@apks.com>; Howard, Jason J. <rmlevene@wlrk.com>
Subject: [External] Chemours DAF Spill

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Thank you –
Christel

Christel Compton
Program Manager
The Chemours Company – Fayetteville Works
(o) 910-678-1213
(m) Personal Phone / Ex. 6

Chemours

The Chemours Company FC, LLC
22828 NC Highway 87 W
Fayetteville, NC 28306-7332

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https://www.chemours.com/Chemours_Home/en_US/email_disclaimer.html

To: Gettle, Jeaneanne[Gettle.Jeaneanne@epa.gov]; Mundrick, Doug[Mundrick.Doug@epa.gov]; France, Danny[France.Danny@epa.gov]
Cc: Banister, Beverly[Banister.Beverly@epa.gov]; Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Kemker, Carol
Sent: Thur 11/16/2017 9:14:33 PM
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

FYI

From: Kemker, Carol
Sent: Thursday, November 16, 2017 12:09 PM
To: Heard, Anne <Heard.Anne@epa.gov>; Jones-Johnson, Shea
Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Anthony Toney <Toney.Anthony@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Anne,

I just got off the phone with the NC air director regarding this incident and follow-up on the October incident. NC's air program is investigating both incidents. At this time, it is not certain that the October spill was released through the scrubber. At this time, NC air program believes the November release was caused by a valve failure that has now been corrected. NC DEQ continues to investigate and will be scheduling a call with us to discuss both incidents, the ongoing air investigation and any support they need.

Carol

From: Holman, Sheila [mailto:sheila.holman@ncdenr.gov]
Sent: Thursday, November 16, 2017 10:47 AM
To: Kemker, Carol <Kemker.Carol@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

All,

I wanted to make you aware of an air release at the Chemours site on 11/14-11/15. I will update as I have additional details.

Sheila

Sheila Holman
Assistant Secretary for the Environment
NCDEQ
1601 Mail Service Center
Raleigh, NC 27699-1601
Phone/Fax: 919-707-8619
deq.nc.gov
Sheila.holman@ncdenr.gov

From: Culpepper, Linda
Sent: Thursday, November 16, 2017 8:22 AM
To: Holman, Sheila <sheila.holman@ncdenr.gov>
Subject: Fwd: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Sent from my iPhone
Begin forwarded message:

> **From:** "Grzyb, Julie" <julie.grzyb@ncdenr.gov>
> **Date:** November 15, 2017 at 6:57:50 PM EST
> **To:** "Compton, Christel E" <CHRISTEL.E.COMPTON@chemours.com>

Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Christel,
We are concerned the municipalities will want to be able to compare this spill to the last spill so they understand its significance as it relates to drinking water contamination.
Can you describe the first spill using a similar approach (ie. date, detection, place, isolation, fix, number of hours, pounds, etc). And, can you add a statement to address whether the municipalities should be concerned with whether this will affect their drinking water intakes like the last spill.
Please call if you want to discuss,
Julie

From: Compton, Christel E [mailto:CHRISTEL.E.COMPTON@chemours.com]
Sent: Wednesday, November 15, 2017 6:04 PM
To: Grzyb, Julie <julie.grzyb@ncdenr.gov>; Allen, Trent <trent.allen@ncdenr.gov>; josh.harris@ncdenr.gov; Reeves, Gregory W <gregory.reeves@ncdenr.gov>
Cc: eric.rey@apks.com; Gross, Joel M. <Joel.Gross@apks.com>
Subject: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

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Josh –

I am writing to confirm the call I made to you today with regard to the release of HFPO and HFPO Dimer Acid Fluoride at the Chemours Facility in Fayetteville, NC. As I mentioned, we wanted as a courtesy to promptly provide DEQ with this information. We do not understand that a more formal report is required, but if you would like further information we are glad to provide it.

Yesterday, 11/14/2017, our monitoring system detected a leak in the Vinyl Ethers South Condensation Tower at approximately 5:40 pm. Technicians isolated the equipment in this tower and entered the tower to find the leak. The leak was found 13 hours later, at approximately 7 am this morning, on a low point drain on the Condensation Reactor. The leak was promptly repaired. This reactor is inside the Condensation Tower and emissions from this Tower are pulled into and then emitted from the stack (NCD-Hdr2), without going through any scrubber. Estimates using our Leak Estimator indicate that approximately 55 lbs of HFPO and 70 lbs of HFPO Dimer Acid Fluoride were released. These levels are below all Reportable Quantities (which are NA for HFPO and 1,660 lbs for HFPO Dimer Acid Fluoride) and below our Title V permitted limits (which are NA for HFPO as a single compound and 120 lbs/hour, respectively).

Please let me know if you need or would like additional information.

Thank you –

Christel Compton
Program Manager

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To: Lincoln, Larry[Lincoln.Larry@epa.gov]
Cc: Banister, Beverly[Banister.Beverly@epa.gov]; Walker, Mary[walker.mary@epa.gov]; Allenbach, Becky[Allenbach.Becky@epa.gov]; Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Kemker, Carol
Sent: Thur 11/16/2017 8:28:28 PM
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Larry,

Please read the message to Anne below. This is a heads up about a November 14-15 release at Chemours. Please let us know if you have any questions. We will keep you posted.

Carol

From: Kemker, Carol
Sent: Thursday, November 16, 2017 12:09 PM
To: Heard, Anne <Heard.Anne@epa.gov>; Jones-Johnson, Shea
Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Anthony Toney <Toney.Anthony@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Anne,

I just got off the phone with the NC air director regarding this incident and follow-up on the October incident. NC's air program is investigating both incidents. At this time, it is not certain that the October spill was released through the scrubber. At this time, NC air program believes the November release was caused by a valve failure that has now been corrected. NC DEQ continues to investigate and will be scheduling a call with us to discuss both incidents, the ongoing air investigation and any support they need.

Carol

From: Holman, Sheila [mailto:sheila.holman@ncdenr.gov]
Sent: Thursday, November 16, 2017 10:47 AM
To: Kemker, Carol <Kemker.Carol@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

All,

I wanted to make you aware of an air release at the Chemours site on 11/14-11/15. I will update as I have additional details.

Sheila

Sheila Holman
Assistant Secretary for the Environment
NCDEQ
1601 Mail Service Center
Raleigh, NC 27699-1601
Phone/Fax: 919-707-8619
deq.nc.gov
Sheila.holman@ncdenr.gov

From: Culpepper, Linda
Sent: Thursday, November 16, 2017 8:22 AM
To: Holman, Sheila <sheila.holman@ncdenr.gov>
Subject: Fwd: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Sent from my iPhone
Begin forwarded message:

From: "Grzyb, Julie" <julie.grzyb@ncdenr.gov>
Date: November 15, 2017 at 6:57:50 PM EST
To: "Compton, Christel E" <CHRISTEL.E.COMPTON@chemours.com>
Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Christel,
We are concerned the municipalities will want to be able to compare this spill to the last spill so they understand its significance as it relates to drinking water contamination.
Can you describe the first spill using a similar approach (ie. date, detection, place, isolation, fix, number of hours, pounds, etc). And, can you add a statement to address whether the municipalities should be concerned with whether this will affect their drinking water intakes like the last spill.
Please call if you want to discuss,
Julie

From: Compton, Christel E [mailto:CHRISTEL.E.COMPTON@chemours.com]
Sent: Wednesday, November 15, 2017 6:04 PM
To: Grzyb, Julie <julie.grzyb@ncdenr.gov>; Allen, Trent <trent.allen@ncdenr.gov>; josh.harris@ncdenr.gov; Reeves, Gregory W <gregory.reeves@ncdenr.gov>
Cc: eric.rey@apks.com; Gross, Joel M. <Joel.Gross@apks.com>
Subject: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

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Thank you –

Christel Compton
Program Manager

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To: Garvey, Mark[Garvey.Mark@epa.gov]; Miles, James[miles.james@epa.gov]; Aubee, Catherine[Aubee.Catherine@epa.gov]; Moyer, Adam[moyer.adam@epa.gov]
Cc: Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Mitchell, Ken
Sent: Thur 11/16/2017 6:18:29 PM
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

fyi

Kenneth L. Mitchell, Ph.D. |Special Assistant to the Director|
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency |61 Forsyth Street, SW |Atlanta, GA 30303
Voice: 404-562-9065 |Fax: 404-562-9066|Email: mitchell.ken@epa.gov

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From: Kemker, Carol
Sent: Thursday, November 16, 2017 12:09 PM
To: Heard, Anne <Heard.Anne@epa.gov>; Jones-Johnson, Shea <Jones-Johnson.Shea@epa.gov>
Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

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Sent: Thursday, November 16, 2017 10:47 AM
To: Kemker, Carol <Kemker.Carol@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

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NCDEQ
1601 Mail Service Center
Raleigh, NC 27699-1601
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To: Grzyb, Julie <julie.grzyb@ncdenr.gov>; Allen, Trent <trent.allen@ncdenr.gov>; josh.harris@ncdenr.gov; Reeves, Gregory W <gregory.reeves@ncdenr.gov>
Cc: eric.rey@apks.com; Gross, Joel M. <Joel.Gross@apks.com>
Subject: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

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To: Garvey, Mark[Garvey.Mark@epa.gov]; Miles, James[miles.james@epa.gov]; Aubee, Catherine[Aubee.Catherine@epa.gov]; Moyer, Adam[moyer.adam@epa.gov]
Cc: Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Mitchell, Ken
Sent: Thur 11/16/2017 6:18:24 PM
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

fyi

Kenneth L. Mitchell, Ph.D. |Special Assistant to the Director|
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency |61 Forsyth Street, SW |Atlanta, GA 30303
Voice: 404-562-9065 |Fax: 404-562-9066|Email: mitchell.ken@epa.gov

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Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>
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To: Kemker, Carol <Kemker.Carol@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>
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Sheila Holman
Assistant Secretary for the Environment
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Phone/Fax: 919-707-8619
deq.nc.gov
Sheila.holman@ncdenr.gov

From: Culpepper, Linda
Sent: Thursday, November 16, 2017 8:22 AM
To: Holman, Sheila <sheila.holman@ncdenr.gov>
Subject: Fwd: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Sent from my iPhone
Begin forwarded message:

From: "Grzyb, Julie" <julie.grzyb@ncdenr.gov>
Date: November 15, 2017 at 6:57:50 PM EST
To: "Compton, Christel E" <CHRISTEL.E.COMPTON@chemours.com>
Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Christel,
We are concerned the municipalities will want to be able to compare this spill to the last spill so they understand its significance as it relates to drinking water contamination.
Can you describe the first spill using a similar approach (ie. date, detection, place, isolation, fix, number of hours, pounds, etc). And, can you add a statement to address whether the municipalities should be concerned with whether this will affect their drinking water intakes like the last spill.
Please call if you want to discuss,
Julie

From: Compton, Christel E [mailto:CHRISTEL.E.COMPTON@chemours.com]
Sent: Wednesday, November 15, 2017 6:04 PM
To: Grzyb, Julie <julie.grzyb@ncdenr.gov>; Allen, Trent <trent.allen@ncdenr.gov>; josh.harris@ncdenr.gov; Reeves, Gregory W <gregory.reeves@ncdenr.gov>
Cc: eric.rey@apks.com; Gross, Joel M. <Joel.Gross@apks.com>
Subject: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

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Josh –

I am writing to confirm the call I made to you today with regard to the release of HFPO and HFPO Dimer Acid Fluoride at the Chemours Facility in Fayetteville, NC. As I mentioned, we wanted as a courtesy to promptly provide DEQ with this information. We do not understand that a more formal report is required, but if you would like further information we are glad to provide it.

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Please let me know if you need or would like additional information.

Thank you –

Christel Compton
Program Manager

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purposes or for transfers of data to third parties.

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https://www.chemours.com/Chemours_Home/en_US/email_disclaimer.html

To: Aubee, Catherine[Aubee.Catherine@epa.gov]; Moyer, Adam[moyer.adam@epa.gov]
Cc: Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Mitchell, Ken
Sent: Thur 11/16/2017 6:13:57 PM
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

See below....release earlier this week.

Kenneth L. Mitchell, Ph.D. |Special Assistant to the Director|
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency |61 Forsyth Street, SW |Atlanta, GA 30303
Voice: 404-562-9065 |Fax: 404-562-9066|Email: mitchell.ken@epa.gov

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From: Mitchell, Ken
Sent: Thursday, November 16, 2017 12:46 PM
To: George, Verne <George.Verne@epa.gov>; Miles, James <miles.james@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>
Cc: Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

FYI....this relates to the November 14, 2017, release at the Chemours Fayetteville facility.

Kenneth L. Mitchell, Ph.D. |Special Assistant to the Director|
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency |61 Forsyth Street, SW |Atlanta, GA 30303
Voice: 404-562-9065 |Fax: 404-562-9066|Email: mitchell.ken@epa.gov

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From: Kemker, Carol
Sent: Thursday, November 16, 2017 11:23 AM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

From: Holman, Sheila [mailto:sheila.holman@ncdenr.gov]
Sent: Thursday, November 16, 2017 10:47 AM
To: Kemker, Carol <Kemker.Carol@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

All,

I wanted to make you aware of an air release at the Chemours site on 11/14-11/15. I will update as I have additional details.

Sheila

Sheila Holman
Assistant Secretary for the Environment
NCDEQ
1601 Mail Service Center
Raleigh, NC 27699-1601
Phone/Fax: 919-707-8619
deq.nc.gov

Sheila.holman@ncdenr.gov

From: Culpepper, Linda
Sent: Thursday, November 16, 2017 8:22 AM
To: Holman, Sheila <sheila.holman@ncdenr.gov>
Subject: Fwd: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Sent from my iPhone
Begin forwarded message:

> **From:** "Grzyb, Julie" <julie.grzyb@ncdenr.gov>
> **Date:** November 15, 2017 at 6:57:50 PM EST
> **To:** "Compton, Christel E" <CHRISTEL.E.COMPTON@chemours.com>
> **Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17**
>
> Christel,
> We are concerned the municipalities will want to be able to compare this spill to the last spill so they understand its significance as it relates to drinking water contamination.
> Can you describe the first spill using a similar approach (ie. date, detection, place, isolation, fix, number of hours, pounds, etc). And, can you add a statement to address whether the municipalities should be concerned with whether this will affect their drinking water intakes like the last spill.
> Please call if you want to discuss,
> Julie
>
> **From:** Compton, Christel E [mailto:CHRISTEL.E.COMPTON@chemours.com]
> **Sent:** Wednesday, November 15, 2017 6:04 PM
> **To:** Grzyb, Julie <julie.grzyb@ncdenr.gov>; Allen, Trent <trent.allen@ncdenr.gov>; josh.harris@ncdenr.gov; Reeves, Gregory W <gregory.reeves@ncdenr.gov>
> **Cc:** eric.rey@apks.com; Gross, Joel M. <Joel.Gross@apks.com>
> **Subject:** [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
>
> CAUTION: External email. Do not click links or open attachments unless verified. Send all suspicious email as an attachment to report.spam@nc.gov.
>
> Josh –
>
> I am writing to confirm the call I made to you today with regard to the release of HFPO and HFPO Dimer Acid Fluoride at the Chemours Facility in Fayetteville, NC. As I mentioned, we wanted as a courtesy to promptly provide DEQ with this information. We do not understand that a more formal report is required, but if you would like further information we are glad to provide it.
>
> Yesterday, 11/14/2017, our monitoring system detected a leak in the Vinyl Ethers South Condensation Tower at approximately 5:40 pm. Technicians isolated the equipment in this tower and entered the tower to find the leak. The leak was found 13 hours later, at approximately 7 am this morning, on a low point drain on the Condensation Reactor. The leak was promptly repaired. This reactor is inside the Condensation Tower and emissions from this Tower are pulled into and then emitted from the stack (NCD-Hdr2), without going through any scrubber. Estimates using our Leak Estimator indicate that approximately 55 lbs of HFPO and 70 lbs of HFPO Dimer Acid Fluoride were released. These levels are below all Reportable Quantities (which are NA for HFPO and 1,660 lbs for HFPO Dimer Acid Fluoride) and below our Title V permitted limits (which are NA for HFPO as a single compound and 120 lbs/hour, respectively).
>
> Please let me know if you need or would like additional information.
>
> Thank you –
>
> Christel Compton
> Program Manager

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To: Moyer, Adam[moyer.adam@epa.gov]; Aubee, Catherine[Aubee.Catherine@epa.gov]; Miles, James[miles.james@epa.gov]; Garvey, Mark[Garvey.Mark@epa.gov]
Cc: Mitchell, Ken[Mitchell.Ken@epa.gov]; Kemker, Carol[Kemker.Carol@epa.gov]; Bookman, Robert[Bookman.Robert@epa.gov]; George, Verne[George.Verne@epa.gov]; Toney, Anthony[Toney.Anthony@epa.gov]
From: Mitchell, Ken
Sent: Thur 11/16/2017 6:12:49 PM
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Follow-up for our 1pm call.

Kenneth L. Mitchell, Ph.D. |Special Assistant to the Director|
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency |61 Forsyth Street, SW |Atlanta, GA 30303
Voice: 404-562-9065 |Fax: 404-562-9066|Email: mitchell.ken@epa.gov

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From: Allenbach, Becky
Sent: Thursday, November 16, 2017 12:30 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>; Heard, Anne <Heard.Anne@epa.gov>; Jones-Johnson, Shea <Jones-Johnson.Shea@epa.gov>
Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Monell, Carol <Monell.Carol@epa.gov>; Farmer, Alan <Farmer.Alan@epa.gov>
Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Also, Anne, we learned this week that the facility is sending about 35,000 lbs of sludge per week from their wastewater treatment plant to a subtitle D landfill in a nearby town. We are looking into the landfill with the RCRA division to determine whether this **may** create an additional source of contamination.

Becky B. Allenbach, Chief
Grants and Drinking Water Protection Branch
Water Protection Division
EPA Region 4 – Atlanta
Office: 404-562-9687
Cell: Personal Phone / Ex. 6

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From: Kemker, Carol
Sent: Thursday, November 16, 2017 12:09 PM
To: Heard, Anne <Heard.Anne@epa.gov>; Jones-Johnson, Shea <Jones-Johnson.Shea@epa.gov>
Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Anne,

I just got off the phone with the NC air director regarding this incident and follow-up on the October incident. NC's air program is investigating both incidents. At this time, it is not certain that the October spill was released through the scrubber. At this time, NC air program believes the November release was caused by a valve failure that has now been corrected. NC DEQ continues to investigate and will be scheduling a call with us to discuss both incidents, the ongoing air investigation and any support they need.

Carol

From: Holman, Sheila [mailto:sheila.holman@ncdenr.gov]
Sent: Thursday, November 16, 2017 10:47 AM
To: Kemker, Carol <Kemker.Carol@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

All,

I wanted to make you aware of an air release at the Chemours site on 11/14-11/15. I will update as I have additional details.

Sheila

Sheila Holman
Assistant Secretary for the Environment
NCDEQ
1601 Mail Service Center
Raleigh, NC 27699-1601
Phone/Fax: 919-707-8619
deq.nc.gov
Sheila.holman@ncdenr.gov

From: Culpepper, Linda
Sent: Thursday, November 16, 2017 8:22 AM
To: Holman, Sheila <sheila.holman@ncdenr.gov>
Subject: Fwd: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Sent from my iPhone
Begin forwarded message:

> **From:** "Grzyb, Julie" <julie.grzyb@ncdenr.gov>
> **Date:** November 15, 2017 at 6:57:50 PM EST
> **To:** "Compton, Christel E" <CHRISTEL.E.COMPTON@chemours.com>
> **Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17**
>
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> We are concerned the municipalities will want to be able to compare this spill to the last spill so they understand its significance as it relates to drinking water contamination.
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> Julie
>
> ---
>
> **From:** Compton, Christel E [mailto:CHRISTEL.E.COMPTON@chemours.com]
> **Sent:** Wednesday, November 15, 2017 6:04 PM
> **To:** Grzyb, Julie <julie.grzyb@ncdenr.gov>; Allen, Trent <trent.allen@ncdenr.gov>; josh.harris@ncdenr.gov; Reeves, Gregory W <gregory.reeves@ncdenr.gov>
> **Cc:** eric.rey@apks.com; Gross, Joel M. <Joel.Gross@apks.com>
> **Subject:** [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
>
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> Josh –

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Christel Compton
Program Manager

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To: George, Verne[George.Verne@epa.gov]; Miles, James[miles.james@epa.gov]; Garvey, Mark[Garvey.Mark@epa.gov]; Jones, Aaryn[Jones.Aaryn@epa.gov]; Doa, Maria[Doa.Maria@epa.gov]; Moyer, Adam[moyer.adam@epa.gov]
Cc: Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Mitchell, Ken
Sent: Thur 11/16/2017 5:46:25 PM
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

FYI....this relates to the November 14, 2017, release at the Chemours Fayetteville facility.

Kenneth L. Mitchell, Ph.D. |Special Assistant to the Director|
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency |61 Forsyth Street, SW |Atlanta, GA 30303
Voice: 404-562-9065 |Fax: 404-562-9066|Email: mitchell.ken@epa.gov

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From: Kemker, Carol
Sent: Thursday, November 16, 2017 11:23 AM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

From: Holman, Sheila [mailto:sheila.holman@ncdenr.gov]
Sent: Thursday, November 16, 2017 10:47 AM
To: Kemker, Carol <Kemker.Carol@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

All,

I wanted to make you aware of an air release at the Chemours site on 11/14-11/15. I will update as I have additional details.

Sheila

Sheila Holman
Assistant Secretary for the Environment
NCDEQ
1601 Mail Service Center
Raleigh, NC 27699-1601
Phone/Fax: 919-707-8619
deq.nc.gov
Sheila.holman@ncdenr.gov

From: Culpepper, Linda
Sent: Thursday, November 16, 2017 8:22 AM
To: Holman, Sheila <sheila.holman@ncdenr.gov>
Subject: Fwd: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Sent from my iPhone
Begin forwarded message:

> **From:** "Grzyb, Julie" <julie.grzyb@ncdenr.gov>
> **Date:** November 15, 2017 at 6:57:50 PM EST
> **To:** "Compton, Christel E" <CHRISTEL.E.COMPTON@chemours.com>
> **Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17**

Christel,
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Please call if you want to discuss,
Julie

From: Compton, Christel E [mailto:CHRISTEL.E.COMPTON@chemours.com]
Sent: Wednesday, November 15, 2017 6:04 PM
To: Grzyb, Julie <julie.grzyb@ncdenr.gov>; Allen, Trent <trent.allen@ncdenr.gov>; josh.harris@ncdenr.gov; Reeves, Gregory W <gregory.reeves@ncdenr.gov>
Cc: eric.rey@apks.com; Gross, Joel M. <Joel.Gross@apks.com>
Subject: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

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Thank you –

Christel Compton
Program Manager

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To: Mitchell, Ken[Mitchell.Ken@epa.gov]
Cc: Banister, Beverly[Banister.Beverly@epa.gov]
From: Kemker, Carol
Sent: Thur 11/16/2017 9:26:01 PM
Subject: FW: Advanced Notice: Press Release Attached "State moves to revoke Chemours' permit to discharge processed wastewater"
Actions 111617.docx

From: Lincoln, Larry
Sent: Thursday, November 16, 2017 4:24 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>
Subject: FW: Advanced Notice: Press Release Attached "State moves to revoke Chemours' permit to discharge processed wastewater"

Perhaps you weren't on the group distro. I will add you.

Larry

Director
Office of External Affairs
U.S. Environmental Protection Agency, Region 4
Phone: (404) 562-8304
Email: lincoln.larry@epa.gov
https://www.epa.gov/aboutepa/about-epa-region-4-southeast
Follow Region 4 on Twitter: www.twitter.com/EPASoutheast
And Facebook: www.facebook.com/eparegion4

From: Lincoln, Larry
Sent: Thursday, November 16, 2017 4:05 PM
To: Allenbach, Becky <Allenbach.Becky@epa.gov>; Ashbee, Blake <ashbee.blake@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Gettle, Jeaneanne <Gettle.Jeaneanne@epa.gov>; Ghosh, Mita <Ghosh.Mita@epa.gov>; Glenn, Trey <Glenn.Trey@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Harris-Young, Dawn <Harris-Young.Dawn@epa.gov>; Heard, Anne <Heard.Anne@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Jones-Johnson, Shea <Jones-Johnson.Shea@epa.gov>; Lapierre, Kenneth <lapierre.kenneth@epa.gov>; Lewis, Jennifer <Lewis.Jennifer@epa.gov>; Marraccini, Davina <Marraccini.Davina@epa.gov>; Mundrick, Doug <Mundrick.Doug@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Wilkes, Mary <Wilkes.Mary@epa.gov>; Wise, Allison <Wise.Allison@epa.gov>
Subject: Advanced Notice: Press Release Attached "State moves to revoke Chemours' permit to discharge processed wastewater"

All –

Please see NCDEQ Press Re: NCDEQ Move to revoke Chemours permit. The letter will be posted on the state website this afternoon.

Larry

Director
Office of External Affairs
U.S. Environmental Protection Agency, Region 4
Phone: (404) 562-8304
Email: lincoln.larry@epa.gov
https://www.epa.gov/aboutepa/about-epa-region-4-southeast

Follow Region 4 on Twitter: www.twitter.com/EPASoutheast
And Facebook: www.facebook.com/eparegion4

From: Leonard, Laura [mailto:laura.leonard@ncdenr.gov]
Sent: Thursday, November 16, 2017 4:01 PM
Subject: Advanced Notice: Press Release Attached "State moves to revoke Chemours' permit to discharge processed wastewater"

DEQ Assistant Secretary for the Environment Sheila Holman referenced additional enforcement actions in the phone call this afternoon. Attached is the press release announcing DEQ's additional actions that will be sent to the media shortly. The letter to Chemours will be posted on the DEQ website soon.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Laura J. Leonard
Public Information Officer
Divisions of Waste Management and Environmental Assistance/Customer Service
Ph: (919) 707-8233
Cell: Personal Phone / Ex. 6
Laura.Leonard@ncdenr.gov
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Michael S. Regan, Secretary

Environmental Quality

Release: IMMEDIATE
Date: Nov. 16, 2017

Contact: Jamie Kritzer
Phone: 919-707-8602

State moves to revoke Chemours' permit to discharge processed wastewater

RALEIGH – The N.C. Department of Environmental Quality announced today it is moving to revoke Chemours' permit to discharge process wastewater because the company failed to comply with its permit and failed to report an October spill.

In addition to moving to revoke Chemours wastewater permit, DEQ officials also notified Chemours the state will suspend its permit to discharge process wastewater from its manufacturing area including the areas where GenX and other fluorinated compounds are produced. The suspension will take effect Nov. 30. Chemours is still required by the state to divert wastewater containing GenX and transport it out-of-state for disposal.

The notifications came in a letter DEQ sent to Chemours Thursday.

"It is unacceptable that Chemours has failed to disclose information required by law, information we need in order to protect the public," said Michael S. Regan, secretary of the N.C. Department of Environmental Quality "We're taking action to suspend Chemours' wastewater permit and moving to permanently revoke it because the company has repeatedly failed to follow the law."

DEQ is referring its probe of the Oct. 6 spill to the State Bureau of Investigation to determine if there is evidence of criminal violations for not reporting the spill as required by law.

The revocation of Chemours' permit to discharge process wastewater from its manufacturing areas will take effect after the required 60 day notice to Chemours and public participation in the permit process. The revocation does not apply to process wastewater from Kuraray and Dupont facilities that is treated and discharged by Chemours under the wastewater discharge permit.

Earlier this week, DEQ cited Chemours with violating the conditions of its wastewater discharge permit because of the company's failure to report an Oct. 6 spill. The spill came to light one month after it occurred when DEQ officials questioned Chemours about state water quality results indicating elevated concentrations of GenX at Chemours' primary wastewater discharge outfall.

Chemours wastewater discharge permit requires that DEQ be notified within 24 hours of any discharge of significant amounts of waste that are abnormal in quantity or characteristic, as well as any non-compliance that potentially threatens public health or the environment.

DEQ determined that Chemours' violation of the reporting requirements in the permit following the Oct. 6 spill are sufficient basis for the revocation of the permit to discharge process wastewater. DEQ will continue to collect and test water samples from the Cape Fear River including at the Chemours outfall.

# # #

ED_002003F_00056627-00001

To: michael.abraczinskas@ncdenr.gov[michael.abraczinskas@ncdenr.gov]; Michael Pjetraj[michael.pjetraj@ncdenr.gov]
Cc: Banister, Beverly[Banister.Beverly@epa.gov]; Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Kemker, Carol
Sent: Tue 11/14/2017 7:16:45 PM
Subject: FW: Chemours - NOV
DOC111317-11132017175559.pdf

For our 2:30 discussion

-----Original Message-----
From: Culpepper, Linda [mailto:linda.culpepper@ncdenr.gov]
Sent: Monday, November 13, 2017 6:34 PM
To: Janovitz, Sara <Janovitz.Sara@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>
Cc: Buckley, Timothy <Buckley.Timothy@epa.gov>
Subject: FW: Chemours - NOV

NOV for spill is attached.

Linda Culpepper
Acting Director
Division of Water Resources
North Carolina Department of Environmental Quality

1611 Mail Service Center
Phone: 919-707-9014

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

-----Original Message-----
From: Culpepper, Linda
Sent: Monday, November 13, 2017 5:05 PM
To: 'ellis.h.mcgaughy@chemours.com' <ellis.h.mcgaughy@chemours.com>; Johnson, Michael E <MICHAEL.E.JOHNSON@chemours.com>
Cc: Allen, Trent <trent.allen@ncdenr.gov>
Subject: Chemours - NOV

Forwarding the attached file. The original will be sent via Certified Mail.

Linda Culpepper
Acting Director
Division of Water Resources
North Carolina Department of Environmental Quality

1611 Mail Service Center
Phone: 919-707-9014

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

To: Allenbach, Becky[Allenbach.Becky@epa.gov]; Walker, Mary[walker.mary@epa.gov]; Kemker, Carol[Kemker.Carol@epa.gov]; Mitchell, Ken[Mitchell.Ken@epa.gov]; Banister, Beverly[Banister.Beverly@epa.gov]; Buckley, Timothy[Buckley.Timothy@epa.gov]
From: Culpepper, Linda
Sent: Fri 11/17/2017 10:39:17 PM
Subject: FW: DEQ investigating air emissions leak at Chemours

Sharing the press release on the air emissions.

I also should have let you know last week that Jay Zimmerman has been asked to be our division's coal ash management lead, so he is knee deep in
rules, policy, permitting and enforcement issues. I'm serving as Interim Director and Jim Gregson, our Wilmington Regional Office Supervisor , is serving
as our Interim Deputy Director. Jim was the Coastal Management Division Director a few years back so he is well seasoned. I've appreciated having his
insight in our Central Office already. We'll make sure he gets to a meeting sometime soon so you can meet him if you haven't already.

linda

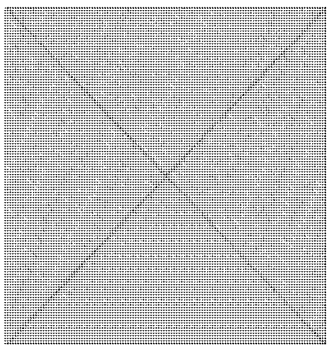
Linda Culpepper
Interim Director
Division of Water Resources
North Carolina Department of Environmental Quality

1611 Mail Service Center
Phone: 919-707-9014

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Jamie Kritzer [mailto:jamie.kritzer@ncdenr.gov]
Sent: Friday, November 17, 2017 3:56 PM
To: Culpepper, Linda <linda.culpepper@ncdenr.gov>
Subject: DEQ investigating air emissions leak at Chemours

Roy Cooper, Governor



Michael S. Regan, Secretary

Release: IMMEDIATE

Contact: Jamie Kritzer

Date: Nov. 17, 2017

Phone: 919-707-8602

DEQ investigating air emissions leak at Chemours

RALEIGH – The state Department of Environmental Quality is investigating reports of an air emissions leak at Chemours' Fayetteville facility

and whether the leak constitutes a violation of the company's air permit.

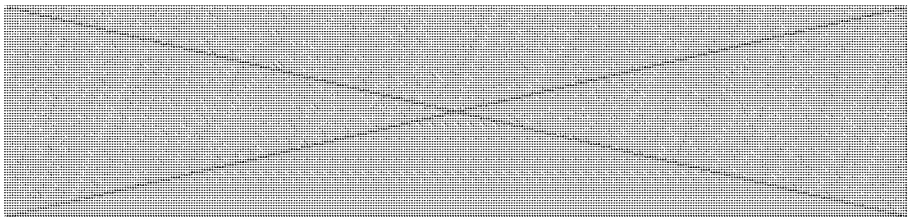
Chemours' officials reported on Wednesday morning the leak occurred about 5:40 p.m. Tuesday in the company's vinyl ether manufacturing area and estimated the leak lasted about 13 hours before the company stopped the leak. The leak came from a condensation tower on the company's Fayetteville Works property. The company was able to isolate the equipment and repair a valve they believe to be the source of the leak.

Based on information provided by Chemours, 55 pounds of hexafluoropropylene oxide (HFPO) and 70 pounds of HFPO dimer acid fluoride was released.

DEQ is also continuing to monitor air quality emissions as part of its investigation.

Earlier this week, DEQ moved to revoke Chemours' permit because the company failed to comply with its permit and failed to report an unrelated spill that occurred in October. DEQ has suspended Chemours' permit effective Nov. 30 and the company is still required by the state to divert wastewater containing GenX and transport it out-of-state for disposal.

# # #



If you would rather not receive future communications from North Carolina Department of Environmental Quality, let us know by clicking here.
North Carolina Department of Environmental Quality, 217 W. Jones St., Raleigh, North Carolina 27699 United States

To: Banister, Beverly[Banister.Beverly@epa.gov]; Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Kemker, Carol
Sent: Wed 11/15/2017 7:50:02 PM
Subject: FW: Most recent info from NC on investigation of release

---

From: Heard, Anne
Sent: Wednesday, November 15, 2017 2:49 PM
To: Walker, Mary <walker.mary@epa.gov>
Cc: Allenbach, Becky <Allenbach.Becky@epa.gov>; Jones-Johnson, Shea <Jones-Johnson.Shea@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>
Subject: RE: Most recent info from NC on investigation of release

Thanks Mary. VAH

From: Walker, Mary
Sent: Monday, November 13, 2017 4:44 PM
To: Heard, Anne <Heard.Anne@epa.gov>
Cc: Allenbach, Becky <Allenbach.Becky@epa.gov>; Jones-Johnson, Shea <Jones-Johnson.Shea@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>
Subject: Most recent info from NC on investigation of release

Enforcement Confidential

Anne,

Enforcement/Investigatory / Ex. 7(a)

Mary S. Walker
Director, Water Protection Division
US Environmental Protection Agency, Region 4
Tel: 404-562-9345

To: Bookman, Robert[Bookman.Robert@epa.gov]; Toney, Anthony[Toney.Anthony@epa.gov]; George, Verne[George.Verne@epa.gov]; Rinck, Todd[Rinck.Todd@epa.gov]
Cc: Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Mitchell, Ken
Sent: Tue 11/14/2017 3:14:00 PM
Subject: FW: Most recent info from NC on investigation of release

FYI....I'll bring you up to date on this air release later today.

Kenneth L. Mitchell, Ph.D. |Special Assistant to the Director|
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency |61 Forsyth Street, SW |Atlanta, GA 30303
Voice: 404-562-9065 |Fax: 404-562-9066|Email: mitchell.ken@epa.gov

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From: Kemker, Carol
Sent: Monday, November 13, 2017 5:05 PM
To: Banister, Beverly <Banister.Beverly@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Subject: FW: Most recent info from NC on investigation of release

FYI

From: Walker, Mary
Sent: Monday, November 13, 2017 4:44 PM
To: Heard, Anne <Heard.Anne@epa.gov>
Cc: Allenbach, Becky <Allenbach.Becky@epa.gov>; Jones-Johnson, Shea <Jones-Johnson.Shea@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>
Subject: Most recent info from NC on investigation of release

Enforcement Confidential

Anne,

Our most recent information from NC on their still ongoing investigation of the GenX/dimer acid release is as follows:

Enforcement/Investigatory / Ex. 7(a)

Mary S. Walker
Director, Water Protection Division
US Environmental Protection Agency, Region 4
Tel: 404-562-9345

To: Banister, Beverly[Banister.Beverly@epa.gov]; Mitchell, Ken[Mitchell.Ken@epa.gov]; Toney, Anthony[Toney.Anthony@epa.gov]; Bookman, Robert[Bookman.Robert@epa.gov]
From: Kemker, Carol
Sent: Mon 11/13/2017 10:05:26 PM
Subject: FW: Most recent info from NC on investigation of release

FYI

From: Walker, Mary
Sent: Monday, November 13, 2017 4:44 PM
To: Heard, Anne <Heard.Anne@epa.gov>
Cc: Allenbach, Becky <Allenbach.Becky@epa.gov>; Jones-Johnson, Shea <Jones-Johnson.Shea@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>
Subject: Most recent info from NC on investigation of release

Enforcement Confidential

Anne,

Enforcement/Investigatory / Ex. 7(a)

Mary S. Walker
Director, Water Protection Division
US Environmental Protection Agency, Region 4
Tel: 404-562-9345

To: Culpepper, Linda[linda.culpepper@ncdenr.gov]; Allenbach, Becky[Allenbach.Becky@epa.gov]; Mitchell, Ken[Mitchell.Ken@epa.gov]; Banister, Beverly[Banister.Beverly@epa.gov]; Barkas, Jessica[barkas.jessica@epa.gov]
From: Kemker, Carol
Sent: Wed 1/17/2018 9:48:00 PM
Subject: RE: [External] Chemours DAF Spill

Linda,

Thanks for sharing the Chemours spill report.

Carol

From: Culpepper, Linda [mailto:linda.culpepper@ncdenr.gov]
Sent: Wednesday, January 17, 2018 4:41 PM
To: Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Barkas, Jessica <barkas.jessica@epa.gov>
Subject: FW: [External] Chemours DAF Spill

Forwarding the latest release information.

Linda Culpepper
Interim Director
Division of Water Resources
North Carolina Department of Environmental Quality

1611 Mail Service Center
Phone: 919-707-9014

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From: Compton, Christel E [mailto:CHRISTEL.E.COMPTON@chemours.com]
Sent: Monday, January 15, 2018 3:53 PM
To: Allen, Trent <trent.allen@ncdenr.gov>
Cc: Culpepper, Linda <linda.culpepper@ncdenr.gov>; Lane, Bill F <Bill.Lane@ncdenr.gov>; Ghiold, Joe <joe.ghiold@ncdenr.gov>; Gross, Joel M. <Joel.Gross@apks.com>; Howard, Jason J. <rmlevene@wlrk.com>
Subject: [External] Chemours DAF Spill

CAUTION: External email. Do not click links or open attachments unless verified. Send all suspicious email as an attachment to report.spam@nc.gov.

Dear Mr. Allen –

Please find attached an electronic copy of the written notification of the Waste Tank Farm HFPO Dimer Acid Fluoride spill that occurred at this facility on January 14, 2018. Please let me know if you have any questions.

Thank you –
Christel

Christel Compton
Program Manager
The Chemours Company – Fayetteville Works
(o) 910-678-1213
(m) Personal Phone / Ex. 6

Chemours™

The Chemours Company FC, LLC
22828 NC Highway 87 W

Fayetteville, NC 28306-7332

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To: Kemker, Carol[Kemker.Carol@epa.gov]; Jones-Johnson, Shea[Jones-Johnson.Shea@epa.gov]
Cc: Banister, Beverly[Banister.Beverly@epa.gov]; Mitchell, Ken[Mitchell.Ken@epa.gov]; Toney, Anthony[Toney.Anthony@epa.gov]; Walker, Mary[walker.mary@epa.gov]; Allenbach, Becky[Allenbach.Becky@epa.gov]
From: Heard, Anne
Sent: Thur 11/16/2017 10:30:19 PM
Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Thanks Carol.

From: Kemker, Carol
Sent: Thursday, November 16, 2017 5:25 PM
To: Heard, Anne <Heard.Anne@epa.gov>; Jones-Johnson, Shea <Jones-Johnson.Shea@epa.gov>
Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>
Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Anne,

Beverly and I had a follow-up discussion with Mike Abrazinskas NC DEQ air director this eveninng. He clarified that at this time NCDEQ does believe that the spill in October was released through the scrubber and then the stack.

Carol

From: Kemker, Carol
Sent: Thursday, November 16, 2017 12:09 PM
To: Heard, Anne <Heard.Anne@epa.gov>; Jones-Johnson, Shea
Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Anthony Toney <Toney.Anthony@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Anne,

I just got off the phone with the NC air director regarding this incident and follow-up on the October incident. NC's air program is investigating both incidents. At this time, it is not certain that the October spill was released through the scrubber. At this time, NC air program believes the November release was caused by a valve failure that has now been corrected. NC DEQ continues to investigate and will be scheduling a call with us to discuss both incidents, the ongoing air investigation and any support they need.

Carol

From: Holman, Sheila [mailto:sheila.holman@ncdenr.gov]
Sent: Thursday, November 16, 2017 10:47 AM
To: Kemker, Carol <Kemker.Carol@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

All,

I wanted to make you aware of an air release at the Chemours site on 11/14-11/15. I will update as I have additional details.

Sheila

Sheila Holman
Assistant Secretary for the Environment
NCDEQ
1601 Mail Service Center
Raleigh, NC 27699-1601
Phone/Fax: 919-707-8619
deq.nc.gov
Sheila.holman@ncdenr.gov

From: Culpepper, Linda
Sent: Thursday, November 16, 2017 8:22 AM
To: Holman, Sheila <sheila.holman@ncdenr.gov>
Subject: Fwd: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Sent from my iPhone
Begin forwarded message:

> **From:** "Grzyb, Julie" <julie.grzyb@ncdenr.gov>
> **Date:** November 15, 2017 at 6:57:50 PM EST
> **To:** "Compton, Christel E" <CHRISTEL.E.COMPTON@chemours.com>
> **Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17**
>
> Christel,
> We are concerned the municipalities will want to be able to compare this spill to the last spill so they understand its significance as it relates to drinking water contamination.
> Can you describe the first spill using a similar approach (ie. date, detection, place, isolation, fix, number of hours, pounds, etc). And, can you add a statement to address whether the municipalities should be concerned with whether this will affect their drinking water intakes like the last spill.
> Please call if you want to discuss,
> Julie
>
> **From:** Compton, Christel E [mailto:CHRISTEL.E.COMPTON@chemours.com]
> **Sent:** Wednesday, November 15, 2017 6:04 PM
> **To:** Grzyb, Julie <julie.grzyb@ncdenr.gov>; Allen, Trent <trent.allen@ncdenr.gov>; josh.harris@ncdenr.gov; Reeves, Gregory W <gregory.reeves@ncdenr.gov>
> **Cc:** eric.rey@apks.com; Gross, Joel M. <Joel.Gross@apks.com>
> **Subject:** [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
>
> CAUTION: External email. Do not click links or open attachments unless verified. Send all suspicious email as an attachment to report.spam@nc.gov.
>
> Josh –
>
> I am writing to confirm the call I made to you today with regard to the release of HFPO and HFPO Dimer Acid Fluoride at the Chemours Facility in Fayetteville, NC. As I mentioned, we wanted as a courtesy to promptly provide DEQ with this information. We do not understand that a more formal report is required, but if you would like further information we are glad to provide it.
>
> Yesterday, 11/14/2017, our monitoring system detected a leak in the Vinyl Ethers South Condensation Tower at approximately 5:40 pm. Technicians isolated the equipment in this tower and entered the tower to find the leak. The leak was found 13 hours later, at approximately 7 am this morning, on a low point drain on the Condensation Reactor. The leak was promptly repaired. This reactor is inside the Condensation Tower and emissions from this Tower are pulled into and then emitted from the stack (NCD-Hdr2), without going through any scrubber. Estimates using our Leak Estimator indicate that approximately 55 lbs of HFPO and 70 lbs of HFPO Dimer Acid Fluoride were released. These levels are below all Reportable Quantities (which are NA for HFPO and 1,660 lbs for HFPO Dimer Acid Fluoride) and below our Title V permitted limits (which are NA for HFPO as a single compound and 120 lbs/hour, respectively).
>
> Please let me know if you need or would like additional information.
>
> Thank you –
>
> Christel Compton
> Program Manager

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To: Kemker, Carol[Kemker.Carol@epa.gov]
Cc: Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Mitchell, Ken
Sent: Thur 11/16/2017 9:25:48 PM
Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

The press release? No...let me see if it's posted.

Kenneth L. Mitchell, Ph.D. | Special Assistant to the Director |
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303
Voice: 404-562-9065 | Fax: 404-562-9066 | Email: mitchell.ken@epa.gov

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From: Kemker, Carol
Sent: Thursday, November 16, 2017 4:25 PM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Did you get it?

From: Lincoln, Larry
Sent: Thursday, November 16, 2017 4:23 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>
Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

To you and the regional GenX Comm group.

Larry

Director
Office of External Affairs
U.S. Environmental Protection Agency, Region 4
Phone: (404) 562-8304
Email: lincoln.larry@epa.gov
https://www.epa.gov/aboutepa/about-epa-region-4-southeast
Follow Region 4 on Twitter: www.twitter.com/EPASoutheast
And Facebook: www.facebook.com/eparegion4

From: Lincoln, Larry
Sent: Thursday, November 16, 2017 4:22 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>
Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

I sent it to you.

Larry

Director
Office of External Affairs
U.S. Environmental Protection Agency, Region 4

Phone: (404) 562-8304
Email: lincoln.larry@epa.gov
https://www.epa.gov/aboutepa/about-epa-region-4-southeast
Follow Region 4 on Twitter: www.twitter.com/EPASoutheast
And Facebook: www.facebook.com/eparegion4

From: Kemker, Carol
Sent: Thursday, November 16, 2017 4:22 PM
To: Lincoln, Larry <Lincoln.Larry@epa.gov>
Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Do you know if there is a NC press release?

From: Lincoln, Larry
Sent: Thursday, November 16, 2017 3:29 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>
Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Thank you!

Larry

Director
Office of External Affairs
U.S. Environmental Protection Agency, Region 4
Phone: (404) 562-8304
Email: lincoln.larry@epa.gov
https://www.epa.gov/aboutepa/about-epa-region-4-southeast
Follow Region 4 on Twitter: www.twitter.com/EPASoutheast
And Facebook: www.facebook.com/eparegion4

From: Kemker, Carol
Sent: Thursday, November 16, 2017 3:28 PM
To: Lincoln, Larry <Lincoln.Larry@epa.gov>
Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Larry,

Please read the message to Anne below. This is a heads up about a November 14-15 release at Chemours. Please let us know if you have any questions. We will keep you posted.

Carol

From: Kemker, Carol
Sent: Thursday, November 16, 2017 12:09 PM
To: Heard, Anne <Heard.Anne@epa.gov>; Jones-Johnson, Shea
Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Anthony Toney <Toney.Anthony@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Anne,

I just got off the phone with the NC air director regarding this incident and follow-up on the October incident. NC's air program is investigating both incidents. At this time, it is not certain that the October spill was released through the scrubber. At this time, NC air program believes the November release was caused by a valve failure that has now been corrected. NC DEQ continues to investigate and will be scheduling a call with us to discuss both incidents, the ongoing air investigation and any support they need.

Carol

From: Holman, Sheila [mailto:sheila.holman@ncdenr.gov]
Sent: Thursday, November 16, 2017 10:47 AM
To: Kemker, Carol <Kemker.Carol@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

All,

I wanted to make you aware of an air release at the Chemours site on 11/14-11/15. I will update as I have additional details.

Sheila

Sheila Holman
Assistant Secretary for the Environment
NCDEQ
1601 Mail Service Center
Raleigh, NC 27699-1601
Phone/Fax: 919-707-8619
deq.nc.gov
Sheila.holman@ncdenr.gov

From: Culpepper, Linda
Sent: Thursday, November 16, 2017 8:22 AM
To: Holman, Sheila <sheila.holman@ncdenr.gov>
Subject: Fwd: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Sent from my iPhone
Begin forwarded message:

> **From:** "Grzyb, Julie" <julie.grzyb@ncdenr.gov>
> **Date:** November 15, 2017 at 6:57:50 PM EST
> **To:** "Compton, Christel E" <CHRISTEL.E.COMPTON@chemours.com>
> **Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17**
>
> Christel,
> We are concerned the municipalities will want to be able to compare this spill to the last spill so they understand its significance as it relates to drinking water contamination.
> Can you describe the first spill using a similar approach (ie. date, detection, place, isolation, fix, number of hours, pounds, etc). And, can you add a statement to address whether the municipalities should be concerned with whether this will affect their drinking water intakes like the last spill.
> Please call if you want to discuss,
> Julie
>
> ---
>
> **From:** Compton, Christel E [mailto:CHRISTEL.E.COMPTON@chemours.com]
> **Sent:** Wednesday, November 15, 2017 6:04 PM
> **To:** Grzyb, Julie <julie.grzyb@ncdenr.gov>; Allen, Trent <trent.allen@ncdenr.gov>; josh.harris@ncdenr.gov; Reeves, Gregory W <gregory.reeves@ncdenr.gov>
> **Cc:** eric.rey@apks.com; Gross, Joel M. <Joel.Gross@apks.com>

Subject: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

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Josh –

I am writing to confirm the call I made to you today with regard to the release of HFPO and HFPO Dimer Acid Fluoride at the Chemours Facility in Fayetteville, NC. As I mentioned, we wanted as a courtesy to promptly provide DEQ with this information. We do not understand that a more formal report is required, but if you would like further information we are glad to provide it.

Yesterday, 11/14/2017, our monitoring system detected a leak in the Vinyl Ethers South Condensation Tower at approximately 5:40 pm. Technicians isolated the equipment in this tower and entered the tower to find the leak. The leak was found 13 hours later, at approximately 7 am this morning, on a low point drain on the Condensation Reactor. The leak was promptly repaired. This reactor is inside the Condensation Tower and emissions from this Tower are pulled into and then emitted from the stack (NCD-Hdr2), without going through any scrubber. Estimates using our Leak Estimator indicate that approximately 55 lbs of HFPO and 70 lbs of HFPO Dimer Acid Fluoride were released. These levels are below all Reportable Quantities (which are NA for HFPO and 1,660 lbs for HFPO Dimer Acid Fluoride) and below our Title V permitted limits (which are NA for HFPO as a single compound and 120 lbs/hour, respectively).

Please let me know if you need or would like additional information.

Thank you –

Christel Compton
Program Manager

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To: Mitchell, Ken[Mitchell.Ken@epa.gov]; Garvey, Mark[Garvey.Mark@epa.gov]; Aubee, Catherine[Aubee.Catherine@epa.gov]; Moyer, Adam[moyer.adam@epa.gov]
From: Miles, James
Sent: Thur 11/16/2017 6:20:01 PM
Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Thanks for continuing to keep us in the loop

From: Mitchell, Ken
Sent: Thursday, November 16, 2017 1:18 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>; Miles, James <miles.james@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>
Cc: Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

fyi

Kenneth L. Mitchell, Ph.D. | Special Assistant to the Director |
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303
Voice: 404-562-9065 | Fax: 404-562-9066 | Email: mitchell.ken@epa.gov

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From: Kemker, Carol
Sent: Thursday, November 16, 2017 12:09 PM
To: Heard, Anne <Heard.Anne@epa.gov>; Jones-Johnson, Shea <Jones-Johnson.Shea@epa.gov>
Cc: Banister, Beverly <Banister.Beverly@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Anne,

I just got off the phone with the NC air director regarding this incident and follow-up on the October incident. NC's air program is investigating both incidents. At this time, it is not certain that the October spill was released through the scrubber. At this time, NC air program believes the November release was caused by a valve failure that has now been corrected. NC DEQ continues to investigate and will be scheduling a call with us to discuss both incidents, the ongoing air investigation and any support they need.

Carol

From: Holman, Sheila [mailto:sheila.holman@ncdenr.gov]
Sent: Thursday, November 16, 2017 10:47 AM
To: Kemker, Carol <Kemker.Carol@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>
Subject: FW: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

All,

I wanted to make you aware of an air release at the Chemours site on 11/14-11/15. I will update as I have additional details.

Sheila

Sheila Holman
Assistant Secretary for the Environment
NCDEQ
1601 Mail Service Center
Raleigh, NC 27699-1601
Phone/Fax: 919-707-8619

deq.nc.gov
Sheila.holman@ncdenr.gov

From: Culpepper, Linda
Sent: Thursday, November 16, 2017 8:22 AM
To: Holman, Sheila <sheila.holman@ncdenr.gov>
Subject: Fwd: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17

Sent from my iPhone
Begin forwarded message:

> **From:** "Grzyb, Julie" <julie.grzyb@ncdenr.gov>
> **Date:** November 15, 2017 at 6:57:50 PM EST
> **To:** "Compton, Christel E" <CHRISTEL.E.COMPTON@chemours.com>
> **Subject: RE: [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17**
>
> Christel,
> We are concerned the municipalities will want to be able to compare this spill to the last spill so they understand its significance as it relates to drinking water contamination.
> Can you describe the first spill using a similar approach (ie. date, detection, place, isolation, fix, number of hours, pounds, etc). And, can you add a statement to address whether the municipalities should be concerned with whether this will affect their drinking water intakes like the last spill.
> Please call if you want to discuss,
> Julie
>
> **From:** Compton, Christel E [mailto:CHRISTEL.E.COMPTON@chemours.com]
> **Sent:** Wednesday, November 15, 2017 6:04 PM
> **To:** Grzyb, Julie <julie.grzyb@ncdenr.gov>; Allen, Trent <trent.allen@ncdenr.gov>; josh.harris@ncdenr.gov; Reeves, Gregory W <gregory.reeves@ncdenr.gov>
> **Cc:** eric.rey@apks.com; Gross, Joel M. <Joel.Gross@apks.com>
> **Subject:** [External] Chemours Fugitive Emissions Release 11/14 - 11/15/17
>
> CAUTION: External email. Do not click links or open attachments unless verified. Send all suspicious email as an attachment to report.spam@nc.gov.
>
> Josh –
>
> I am writing to confirm the call I made to you today with regard to the release of HFPO and HFPO Dimer Acid Fluoride at the Chemours Facility in Fayetteville, NC. As I mentioned, we wanted as a courtesy to promptly provide DEQ with this information. We do not understand that a more formal report is required, but if you would like further information we are glad to provide it.
>
> Yesterday, 11/14/2017, our monitoring system detected a leak in the Vinyl Ethers South Condensation Tower at approximately 5:40 pm. Technicians isolated the equipment in this tower and entered the tower to find the leak. The leak was found 13 hours later, at approximately 7 am this morning, on a low point drain on the Condensation Reactor. The leak was promptly repaired. This reactor is inside the Condensation Tower and emissions from this Tower are pulled into and then emitted from the stack (NCD-Hdr2), without going through any scrubber. Estimates using our Leak Estimator indicate that approximately 55 lbs of HFPO and 70 lbs of HFPO Dimer Acid Fluoride were released. These levels are below all Reportable Quantities (which are NA for HFPO and 1,660 lbs for HFPO Dimer Acid Fluoride) and below our Title V permitted limits (which are NA for HFPO as a single compound and 120 lbs/hour, respectively).
>
> Please let me know if you need or would like additional information.
>
> Thank you –
>
> Christel Compton

Program Manager

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To: michael.abraczinskas@ncdenr.gov[michael.abraczinskas@ncdenr.gov]
Cc: Michael Pjetraj[michael.pjetraj@ncdenr.gov]; Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Kemker, Carol
Sent: Tue 11/14/2017 3:08:53 PM
Subject: RE: [External] FW: Chemours

Mike,

Can we do 2:30?

Carol

From: Abraczinskas, Michael [mailto:michael.abraczinskas@ncdenr.gov]
Sent: Monday, November 13, 2017 5:36 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>
Cc: Michael Pjetraj <michael.pjetraj@ncdenr.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: Re: [External] FW: Chemours

How does Tuesday at 3 work?

Sent from my iPhone
On Nov 13, 2017, at 3:50 PM, Kemker, Carol <Kemker.Carol@epa.gov> wrote:

> CAUTION: External email. Do not click links or open attachments unless verified. Send all suspicious email as an attachment to report.spam@nc.gov.
>
> Mike,
>
> Can we have a call to discuss the potential air release this afternoon or tomorrow?
>
> Thanks,
> Carol
>
> ---
>
> **From:** Walker, Mary
> **Sent:** Monday, November 13, 2017 12:03 PM
> **To:** Mitchell, Ken <Mitchell.Ken@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>
> **Subject:** FW: Chemours
>
> ---
>
> **From:** Davis, Molly
> **Sent:** Monday, November 13, 2017 10:21 AM
> **To:** Walker, Mary <walker.mary@epa.gov>
> **Cc:** Allenbach, Becky <Allenbach.Becky@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Ireland, Sean <Ireland.Sean@epa.gov>
> **Subject:** Chemours
>
> **Enforcement/Investigatory / Ex. 7(a)**
>
> On another note, I received a call from a volunteer group in the Cape Fear Watershed asking for the data EPA

collected after the Oct. 6th spill. Julie said its typically on the NC website but she nor I could find it this morning. The data is likely going through QA/QC before they post it. Hope this helps!

Molly Davis
Chief, NPDES Permitting Section
61 Forsyth St SW 15T37
Atlanta, GA 30303
404.562.9236 (office)
404.562.9772 (fax)

To: Mitchell, Ken[Mitchell.Ken@epa.gov]; Toney, Anthony[Toney.Anthony@epa.gov]; George, Verne[George.Verne@epa.gov]; Rinck, Todd[Rinck.Todd@epa.gov]
From: Bookman, Robert
Sent: Tue 11/14/2017 6:37:22 PM
Subject: RE: Most recent info from NC on investigation of release

Thanks Carol,
Robert

From: Mitchell, Ken
Sent: Tuesday, November 14, 2017 10:14 AM
To: Bookman, Robert <Bookman.Robert@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; George, Verne <George.Verne@epa.gov>; Rinck, Todd <Rinck.Todd@epa.gov>
Cc: Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: FW: Most recent info from NC on investigation of release

FYI....I'll bring you up to date on this air release later today.

Kenneth L. Mitchell, Ph.D. |Special Assistant to the Director|
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency |61 Forsyth Street, SW |Atlanta, GA 30303
Voice: 404-562-9065 |Fax: 404-562-9066|Email: mitchell.ken@epa.gov

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From: Kemker, Carol
Sent: Monday, November 13, 2017 5:05 PM
To: Banister, Beverly <Banister.Beverly@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Subject: FW: Most recent info from NC on investigation of release

FYI

From: Walker, Mary
Sent: Monday, November 13, 2017 4:44 PM
To: Heard, Anne <Heard.Anne@epa.gov>
Cc: Allenbach, Becky <Allenbach.Becky@epa.gov>; Jones-Johnson, Shea <Jones-Johnson.Shea@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>
Subject: Most recent info from NC on investigation of release

Enforcement Confidential

Anne,

Our most recent information from NC on their still ongoing investigation of the GenX/dimer acid release is as follows:

Enforcement/Investigatory / Ex. 7(a)

Mary S. Walker
Director, Water Protection Division
US Environmental Protection Agency, Region 4
Tel: 404-562-9345

To: Culpepper, Linda[linda.culpepper@ncdenr.gov]; Buckley, Timothy[Buckley.Timothy@epa.gov]; Strynar, Mark[strynar.mark@epa.gov]; Allenbach, Becky[Allenbach.Becky@epa.gov]; Kemker, Carol[Kemker.Carol@epa.gov]; Mitchell, Ken[Mitchell.Ken@epa.gov]
From: Banister, Beverly
Sent: Thur 11/2/2017 1:57:19 AM
Subject: RE: Spill in Vinyl Ethers South area - FW: [External] Chemours Outfall 002 Analytical results - October

Thanks Linda for keeping us in the loop.
Beverly

From: Culpepper, Linda [mailto:linda.culpepper@ncdenr.gov]
Sent: Wednesday, November 01, 2017 9:55 PM
To: Buckley, Timothy <Buckley.Timothy@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>
Subject: Spill in Vinyl Ethers South area - FW: [External] Chemours Outfall 002 Analytical results - October

I've just forwarded the below to staff to see if we received notice about the Vinyl Ethers South area spill.

Linda Culpepper
Deputy Director
Division of Water Resources
North Carolina Department of Environmental Quality

1611 Mail Service Center
Phone: 919-707-9014

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From: Compton, Christel E [mailto:CHRISTEL.E.COMPTON@chemours.com]
Sent: Wednesday, November 01, 2017 6:02 PM
To: Culpepper, Linda <linda.culpepper@ncdenr.gov>; Johnson, Michael E <MICHAEL.E.JOHNSON@chemours.com>
Cc: eric.rey@apks.com
Subject: [External] Chemours Outfall 002 Analytical results - October

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Linda,

As requested, please find below the preliminary Outfall 002 data thus far for October. I received these preliminary results this morning and we are still evaluating the potential reasons for the increase. Based on our preliminary review, the primary reason likely was a 10/6 spill of scrubber water in the Vinyl Ethers South area, followed by rain events on 10/7, 10/8, and 10/9 that resulted in stormwater carrying residual C3 dimer acid from the 10/6 incident to Outfall 002.

The site collected additional samples on October 17 and we will provide you those results as soon as we receive them from Test America. We also will be switching back to 1-day grab or composite samples for future sampling for the time being and will provide you those results as well as soon as we receive them from Test America.

Outfall 002 Preliminary Results		
Sample Date	C3 Dimer Acid Result (ppt)	1-day Grab or 3-day Composite?
10/2	35	Grab
10/3	65	Grab

10/5	69	Grab
10/6	250	Grab
10/9	3,700	Composite
10/12	740	Composite
10/16	380	Composite

Please let me know if you have any questions.

Thank you –
Christel

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To: Oif, Leslie[Oif.Leslie@epa.gov]
From: Crossland, Andy
Sent: Wed 11/29/2017 9:17:14 PM
Subject: FW: Draft GenX Paper for OECA Briefing With Enforcement/Investigatory / Ex. 7(a)
Chemours GenX Briefing Paper 112817 for Dec 4.docx

Leslie-

I know you have a number of hot potatoes at the moment... But did you get a chance to reach out to the region to see if the RCRA gang was engaged? If so, let me, Greg and Diana know anything you learned. Else we will go ahead and set something up with Alan and I'll get you on the invite...
---Andy

Andy Crossland
Waste Enforcement Branch, Chief
Waste and Chemical Enforcement Division
Environmental Protection Agency
1200 Pennsylvania Ave. N.W.
Washington D.C. 20460
202-564-0574
crossland.andy@epa.gov

From: Sullivan, Greg
Sent: Wednesday, November 29, 2017 1:20 PM
To: Saenz, Diana <Saenz.Diana@epa.gov>; Crossland, Andy <Crossland.Andy@epa.gov>
Subject: FW: Draft GenX Paper for OECA Briefing With Enforcement/Investigatory / Ex. 7(a)

Diana and Andy,

We should we set up a quick call with Alan Farmer (is he still there or retired?) on RCRA aspects of the Chemours response to ensure we are fully coordinating. Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

From: Garvey, Mark
Sent: Tuesday, November 28, 2017 5:25 PM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; George, Verne <George.Verne@epa.gov>; Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With Enforcement/Investigatory / Ex. 7(a)

To Region 4 TSCA & Water teams,

I'm attaching a revised version of the briefing paper Jeff Speir sent earlier today. It now includes TSCA and RCRA sections along with a few sentences mentioning the Regions 3 and 2 involvement. After speaking with my Division Director this afternoon, this effort appears to be an extremely heavy lift to get ready by Thursday for my Office Director. While I'm still requesting comments by Thursday at noon, we will be talking with our Office Director tomorrow morning to see if there is any flexibility in the scheduling of the briefing paper. There are a lot of fast moving details here and we want to be accurate with Susan Bodine.
We will also be asking about the level of participation at the Susan Bodine meeting. We anticipate that each Region will be asked to participate. We can discuss this on Thursday afternoon's GenX bi-weekly general discussion that James Miles set up.

Please note that this is not a meeting requesting senior management direction, but rather an informational briefing for Susan Bodine.

Thanks,

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Speir, Jeffrey
Sent: Tuesday, November 28, 2017 12:08 PM
To: Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Draft GenX Paper for OECA Briefing

Hello, Region 4 Water Team:

The Director of the Office of Civil Enforcement at Headquarters has requested that we brief OECA leadership on GenX. The briefing will be for Larry Starfield, Patrick Traylor, and Susan Bodine, the Administrator's counsel for enforcement who has expressed interest in this matter. The briefing is scheduled for Monday, December 4 at 2:00 pm. Note: This briefing is not a request for an OECA decision; rather, it is a presentation of the issues and our federal authorities.

We have prepared the attached draft briefing paper. It somewhat resembles a briefing paper you likely saw in August, with more emphasis on background facts and the State's actions, and less emphasis on enforcement "options." My counterpart in our TSCA/RCRA division will send his updates to the relevant Region 4 TSCA/RCRA folks.

Unfortunately, the deadline to send up the briefing paper is tight. Please provide any feedback you may have to me and Mark Garvey (cc'd) by Thursday, November 30 at noon. I apologize about the timing.

Please let me know if you have any questions or if you would like to discuss this further.

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

To: Shell, Karrie-Jo[Shell.Karrie-Jo@epa.gov]
Cc: Schwartz, Paul[Schwartz.Paul@epa.gov]
From: Speir, Jeffrey
Sent: Thur 10/26/2017 5:03:45 PM
Subject: RE: Chemours - GenX Enforcement Coordination Call - TSCA CBI
2017-09-05 GenX NCDEQ Notice of Intent to Suspend NPDES.pdf
2017-10-24 GenX NCDEQ Letter Not to Suspend NPDES.pdf

Hi Karrie-Jo,

I have attached North Carolina's notice of intent to suspend the NPDES permit (dated 9/5) and subsequent decision not to suspend the permit (dated 10/24). NC cited state law (and criteria in federal law) to support its notice of intent to suspend.

I will share the 10/24 document with the larger group, as discussed.

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Shell, Karrie-Jo
Sent: Thursday, October 26, 2017 12:51 PM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>
Cc: Schwartz, Paul <Schwartz.Paul@epa.gov>
Subject: FW: Chemours - GenX Enforcement Coordination Call - TSCA CBI

Hi Jeff,

Please send me NC's 10/24(?) letter re "suspension" of the NPDES permit; please cc Paul Schwartz.
FYI, the action of "suspending" an NPDES permit is not in the NPDES regs. I will ask NC how they interpret this word.

Thanks,
Karrie-Jo Robinson-Shell, P.E.
Environmental Engineer
US EPA Region 4
Water Protection Division
61 Forsyth Street
Atlanta, GA 30303
(404) 562-9308

From: Garvey, Mark
Sent: Thursday, October 26, 2017 8:57 AM
To: Miles, James <miles.james@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Star, David <star.david@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Martinez, Jeffrey <Martinez.Jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Anderson, Kate <Anderson.Kate@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>; Swan, Russell <Swan.Russell@epa.gov>; Unger, LouAnn <unger.louann@epa.gov>; Bair, Rita <bair.rita@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Field, Stephen <Field.Stephen@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>; Ireland, Laurie <Ireland.Laurie@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; DeDora, Caroline <DeDora.Caroline@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>; daw, harry <daw.harry@epa.gov>; Gorman, John <Gorman.John@epa.gov>; Klevs, Mardi <klevs.mardi@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Paul Buellesbach <paul.buellesbach@erg.com>; Dan-Tam Nguyen <Dan-Tam.Nguyen@erg.com>; Daryl Hudson <Daryl.Hudson@erg.com>; Schulz, Susan <Schulz.Susan@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Gordon,

Scott <Gordon.Scott@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Poy, Thomas <poy.thomas@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; rogers, rick <rogers.rick@epa.gov>; Wilson, Jennifer <wilson.jenniferA@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Day, Christopher <Day.Christopher@epa.gov>; Coe, Mary <Coe.Mary@epa.gov>; Ramalho, Louis <Ramalho.Louis@epa.gov>; Lewis, Jennifer <Lewis.Jennifer@epa.gov>; Baptista, Chrisna <Baptista.Chrisna@epa.gov>; Niess, Claudia <niess.claudia@epa.gov>; Spann, Tony <Spann.Tony@epa.gov>; Timsina, Gopal <Timsina.Gopal@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Mancusi-Ungaro, Philip <Mancusi-Ungaro.Philip@epa.gov>; Bush, William <Bush.William@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Devkota, Om <devkota.om@epa.gov>
Cc: Reinhart, Roger <Reinhart.Roger@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>
Subject: RE: Chemours - GenX Enforcement Coordination Call - TSCA CBI

Below is today's Agenda. For Your convenience, I'm also attaching the same items sent around last week since there will be discussion involving them.

Agenda for today's call
Roll call (5 minutes)
TSCA CBI Cleared Employees

I. Region 3 Inspection- Preliminary Impressions of Chemours at Parkersburg WV Last Week
By Lauren Davis (7 minutes)
a. CDR Updated
b. Air Monitoring
c. River Monitoring
d. PPE Issues

II. Water Enforcement
By Jeff Speir (6 minutes)
a. Decision Not to Suspend NPDES Permit
b. Ongoing Litigation (NC, CFPUA, class actions)

III. Air Emissions
By Maria Doa (4 minutes)

IV. TSCA Inspection by Region 4 Update
By Verne George (5 minutes)

V. Questions/Comments from Participants
By Everyone (4 minutes)

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

-----Original Appointment-----
From: Miles, James
Sent: Friday, September 22, 2017 11:45 AM
To: Miles, James; Toney, Anthony; Doa, Maria; Star, David; Garvey, Mark; Tucker, Marlene; Ellis, Tony; Sullivan, Greg; Saenz, Diana; Martinez, Jeffrey; King, Carol; Anderson, Kate; Henry, Tala; Allison, Rose; Swan, Russell; Unger, LouAnn; Bair, Rita; Shoven, Heather;

Field, Stephen; Schwartz, Paul; Davis, Molly; Ireland, Laurie; Moyer, Adam; DeDora, Caroline; Bean, Mark; Bookman, Robert; Pratt, Stacie; daw, harry; Gorman, John; Klevs, Mardi; Kemker, Carol; Denton, Loren; Paul Buellesbach; Dan-Tam Nguyen; Daryl Hudson; Schulz, Susan; Davis, Lauren O.; Gordon, Scott; Fite, Mark; George, Verne; Bates, Keith; Mitchell, Ken; Pollins, Mark; Theis, Joseph; Bahk, Benjamin; Poy, Thomas; Speir, Jeffrey; Collins, Charlie; Aubee, Catherine; rogers, rick; Wilson, Jennifer; Harris, Kimberly; Clark, Jacqueline; Duchovnay, Andrew; Day, Christopher; Coe, Mary; Ramalho, Louis; Lewis, Jennifer; Baptista, Chrisna; Niess, Claudia; Spann, Tony; Timsina, Gopal; Allenbach, Becky; Mancusi-Ungaro, Philip; Bush, William; Janovitz, Sara; Hall, Renea; Shell, Karrie-Jo; Devkota, Om
Cc: Reinhart, Roger; Buso, Roberto X
Subject: Chemours - Enforcement Coordination Call - TSCA CBI
When: Thursday, October 26, 2017 12:30 PM-1:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: 1-866-299-3188; 202-564-5161

Continuing bi-weekly call through Nov.

To: Schwartz, Paul[Schwartz.Paul@epa.gov]
Cc: Davis, Molly[Davis.Molly@epa.gov]
From: Shell, Karrie-Jo[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D09958F715734DCC80BCE5341DF5A36C-SHELL, KARRIE]
Sent: Wed 11/29/2017 12:51:19 PM (UTC)
Subject: FW: Draft GenX Paper for OECA Briefing With Enforcement/Investigatory / Ex. 7(a)
Chemours GenX Briefing Paper 112817 for Dec 4.docx

Paul, fyi

Karrie-Jo Robinson-Shell, P.E.
Environmental Engineer
US EPA Region 4
Water Protection Division
61 Forsyth Street
Atlanta, GA 30303
(404) 562-9308

From: Garvey, Mark
Sent: Tuesday, November 28, 2017 5:25 PM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; George, Verne <George.Verne@epa.gov>; Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With Enforcement/Investigatory / Ex. 7(a)

To Region 4 TSCA & Water teams,

I'm attaching a revised version of the briefing paper Jeff Speir sent earlier today. It now includes Enforcement/Investigatory / Ex. 7(a) along with a few sentences mentioning the Regions 3 and 2 involvement. After speaking with my Division Director this afternoon, this effort appears to be an extremely heavy lift to get ready by Thursday for my Office Director. While I'm still requesting comments by Thursday at noon, we will be talking with our Office Director tomorrow morning to see if there is any flexibility in the scheduling of the briefing paper. There are a lot of fast moving details here and we want to be accurate with Susan Bodine.
We will also be asking about the level of participation at the Susan Bodine meeting. We anticipate that each Region will be asked to participate. We can discuss this on Thursday afternoon's GenX bi-weekly general discussion that James Miles set up.

Please note that this is not a meeting requesting senior management direction, but rather an informational briefing for Susan Bodine.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Speir, Jeffrey
Sent: Tuesday, November 28, 2017 12:08 PM

To: Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Draft GenX Paper for OECA Briefing

Hello, Region 4 Water Team:

The Director of the Office of Civil Enforcement at Headquarters has requested that we brief OECA leadership on GenX. The briefing will be for Larry Starfield, Patrick Traylor, and Susan Bodine, the Administrator's counsel for enforcement who has expressed interest in this matter. The briefing is scheduled for Monday, December 4 at 2:00 pm. Note: This briefing is not a request for an OECA decision; rather, it is a presentation of the issues and our federal authorities.

We have prepared the attached draft briefing paper. It somewhat resembles a briefing paper you likely saw in August, with more emphasis on background facts and the State's actions, and less emphasis on enforcement "options." My counterpart in our Enforcement/Investigatory / Ex. 7(a) division will send his updates to the relevant Region 4 Enforcement/Investigatory / Ex. 7(a) folks.

Unfortunately, the deadline to send up the briefing paper is tight. Please provide any feedback you may have to me and Mark Garvey (cc'd) by Thursday, November 30 at noon. I apologize about the timing.

Please let me know if you have any questions or if you would like to discuss this further.

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

To: Schwartz, Paul[Schwartz.Paul@epa.gov]
Cc: Davis, Molly[Davis.Molly@epa.gov]
From: Shell, Karrie-Jo[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D09958F715734DCC80BCE5341DF5A36C-SHELL, KARRIE]
Sent: Tue 11/28/2017 5:11:43 PM (UTC)
Subject: FW: Draft GenX Paper for OECA Briefing
Chemours GenX Briefing Paper 112817.docx

I will take a look at this today and send comments back to you both.

Karrie-Jo Robinson-Shell, P.E.
Environmental Engineer
US EPA Region 4
Water Protection Division
61 Forsyth Street
Atlanta, GA 30303
(404) 562-9308

From: Speir, Jeffrey
Sent: Tuesday, November 28, 2017 12:08 PM
To: Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Draft GenX Paper for OECA Briefing

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Unfortunately, the deadline to send up the briefing paper is tight. Please provide any feedback you may have to me and Mark Garvey (cc'd) by Thursday, November 30 at noon. I apologize about the timing.

Please let me know if you have any questions or if you would like to discuss this further.

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

To: Speir, Jeffrey[speir.jeffrey@epa.gov]
From: King, Carol[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D38C5B906A8F476F81D7BC657A6833A1-DEMARCO, CAROL]
Sent: Tue 6/20/2017 2:47:00 PM (UTC)
Subject: FW: For Larry/Patrick/Dave review ASAP: Revised GenX statement

---

From: Traylor, Patrick
Sent: Tuesday, June 20, 2017 10:42 AM
To: Senn, John <Senn.John@epa.gov>
Cc: Sullivan, Greg <Sullivan.Greg@epa.gov>; Shinkman, Susan <Shinkman.Susan@epa.gov>; Miles, James <miles.james@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>; Starfield, Lawrence <Starfield.Lawrence@epa.gov>; Cozad, David <Cozad.David@epa.gov>
Subject: RE: For Larry/Patrick/Dave review ASAP: Revised GenX statement

Only one comment from me, redlined below, which more accurately reflects that EPA's investigation is already under way. Otherwise, the OECA-related language appears consistent with what Greg Sullivan briefed yesterday.

Patrick Traylor
Deputy Assistant Administrator
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
(202) 564-5238 (office)
Personal Phone / Ex. 6 (cell)

From: Senn, John
Sent: Tuesday, June 20, 2017 10:30 AM
To: Traylor, Patrick <traylor.patrick@epa.gov>; Starfield, Lawrence <Starfield.Lawrence@epa.gov>; Cozad, David <Cozad.David@epa.gov>
Cc: Sullivan, Greg <Sullivan.Greg@epa.gov>; Shinkman, Susan <Shinkman.Susan@epa.gov>; Miles, James <miles.james@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>
Subject: For Larry/Patrick/Dave review ASAP: Revised GenX statement
Importance: High

Here's a revised statement on GenX, which includes some language that was developed yesterday on the inspection, which I highlighted below. OPA is hoping to start sending this to reporters around noon, so please let me know if anyone has any comments/concerns ASAP.

Thanks,
John

Statement:

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

John Senn
Acting Communications Director
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
(202) 564-8996 - senn.john@epa.gov
https://twitter.com/EPAJustice

CIVITAS
INSTITUTE

805 Spring Forest Rd Ste 100
Raleigh, NC 27609

web: nccivitas.org
phone: 919.834.2099
fax: 919.834.2350

July 28, 2017

Dave Shelton, SVP, General Counsel
The Chemours Company
1007 Market Street
P.O. Box 2047
Wilmington, Delaware 19899

Dear Mr. Shelton;

I write on behalf of Civitas Institute and impacted citizens to provide you notice of my intent to initiate a federal court lawsuit against you to enforce provisions of the Clean Water Act (CWA) including the unlawful discharge of industrial waste – GenX (hexafluoropropylene oxide dimer acid) in the Cape Fear River Basin, North Carolina. This was done without authorization under your National Pollutant Discharge Elimination System (NPDES) permit.

Unless you take the necessary and enforceable steps to remedy these violations, including obtaining the requisite authorization under the NPDES program, we intend to file suit following the expiration of the 60-day notice period provided under the CWA.

Under the CWA, the discharge of any pollutant to waters of the United States is unlawful unless authorized by an NPDES permit. 33 U.S.C. § 1311(a); 33 U.S.C. § 1342. Based on reasonable investigation and publicly available information we believe you are violating the provisions of the CWA by discharging the industrial waste known as GenX as well as other similar compounds.

The discharge of these compounds is likely a violation of water quality standards under NC rules implementing the CWA including 15A NCAC 02B .0208, 02H .0112(c), 02B .0211 and 02B .0406

As provided under the CWA's citizen suit provision, 33 U.S.C. § 1365, we are authorized to file litigation in federal court against you for these violations of the CWA following expiration of the 60-day notice period. The court may award injunctive relief as well as statutory penalties. In addition, Civitas may recover its reasonable attorney fees and litigation costs incurred in the matter.

Respectfully,

Francis X De Luca

Col Francis X. De Luca USMCR(Ret)

CC
Bill Lane, General Counsel
N.C. DEQ Administration
217 West Jones Street
Raleigh, NC 27603

Anne Heard, Acting Regional Administrator
USEPA Region 4 USEPA
61 Forsyth Street S.W. Mail Code:9T25
Atlanta, GA 30303-8960

To: Olson, Bethany[olson.bethany@epa.gov]
Cc: Schweer, Greg[Schweer.Greg@epa.gov]
From: Allison, Rose
Sent: Tue 4/24/2018 9:36:30 PM
Subject: FW: OPPT/OECA Monthly

Enforcement/Investigatory / Ex. 7(a) / / Deliberative Process / Ex. 5

Rose Allison, Team Leader
Office of Pollution Prevention and Toxics (New Chemicals Program)
allison.rose@epa.gov, 202/564-8970

From: Schweer, Greg
Sent: Tuesday, April 24, 2018 5:12 PM
To: Olson, Bethany <olson.bethany@epa.gov>
Cc: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>
Subject: Fwd: OPPT/OECA Monthly

Bethany,

Can we chat tomorrow about this request at 8:30? **Enforcement/Investigatory / Ex. 7(a) / / Deliberative Process / Ex. 5**

Enforcement/Investigatory / Ex. 7(a) / / Deliberative Process / Ex. 5

Sent from my iPhone
Begin forwarded message:

> **From:** "Vendinello, Lynn" <Vendinello.Lynn@epa.gov>
> **Date:** April 24, 2018 at 4:20:50 PM EDT
> **To:** "Schweer, Greg" <Schweer.Greg@epa.gov>
> **Subject: FW: OPPT/OECA Monthly**

Lynn Vendinello
Acting Division Director
Chemical Control Division
Office of Pollution Prevention and Toxics
US. EPA
202-566-0514

From: Miles, James
Sent: Tuesday, April 24, 2018 2:05 PM
To: Blunck, Christopher <Blunck.Chris@epa.gov>
Cc: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>
Subject: RE: OPPT/OECA Monthly

Enforcement/Investigatory / Ex. 7(a) / / Attorney Client / Deliberative Process / Ex. 5

Enforcement/Investigatory / Ex. 7(a) / / Attorney Client / Deliberative Process / Ex. 5

From: Blunck, Christopher
Sent: Tuesday, April 24, 2018 12:40 PM
To: Miles, James <miles.james@epa.gov>
Cc: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Seltzer, Mark <Seltzer.Mark@epa.gov>
Subject: RE: OPPT/OECA Monthly

James – I understand you have period calls w/ OPPT on the Chemours 5e Consent Order / hazard assessment work. What more specifically is it that you all would want to discuss at this meeting?

Chris Blunck
Special Assistant/Policy Advisor
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Phone: 202-564-8078
Fax: 202-564-0575

From: Miles, James
Sent: Tuesday, April 24, 2018 10:47 AM
To: Blunck, Christopher <Blunck.Chris@epa.gov>
Cc: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Seltzer, Mark <Seltzer.Mark@epa.gov>
Subject: OPPT/OECA Monthly

Hi Chris –

We have our regular monthly on the calendar this Thursday. Mark and I were talking about potentially using that hour to meet with folks in OPPT working on the Chemours 5e Consent Order / hazard assessment. I'm not sure of the availability of staff/management on OPPT's end, but throwing this out there for consideration in lieu of a regular meeting.

James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A
1200 Constitution Ave., NW
Washington, DC 20460
202.564.5161
miles.james@epa.gov

Organizer: Miles, James[miles.james@epa.gov]

From: Miles, James[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=6C27D6E7B72E48508EF8AE5768CCAAD3-JMILES]

Location: Personal Phone / Ex. 6

Importance: Normal

Subject: FW: Chemours - Enforcement Coordination Call

Categories: Toxics

Start Time: Tue 8/15/2017 4:30:00 PM (UTC)

End Time: Tue 8/15/2017 5:00:00 PM (UTC)

Required Attendees: Bookman, Robert; Toney, Anthony; Doa, Maria; Pratt, Stacie; daw, harry; Gorman, John; Klevs, Mardi; Star, David; Garvey, Mark; Tucker, Marlene; Ellis, Tony; Kemker, Carol; Sullivan, Greg; Saenz, Diana; Martinez, Jeffrey; King, Carol; Denton, Loren; Paul Buellesbach; Dan-Tam Nguyen; Daryl Hudson; Schulz, Susan; DeDora, Caroline; Davis, Lauren O.; Fite, Mark; George, Verne; Bates, Keith; Mitchell, Ken; Anderson, Kate; Bean, Mark; Henry, Tala; Allison, Rose; Swan, Russell

Optional Attendees: Poy, Thomas; Speir, Jeffrey; Collins, Charlie; Aubee, Catherine; rogers, rick; Wilson, Jennifer; Harris, Kimberly; Unger, LouAnn; Bair, Rita; Shoven, Heather; Clark, Jacqueline; Duchovnay, Andrew; Field, Stephen; Day, Christopher; Ramalho, Louis

Calendar Exception: Untitled

Calendar Exception: Untitled

Calendar Exception: Untitled

Didn't see you on the invite(s)

-----Original Appointment-----
From: Miles, James
Sent: Thursday, August 03, 2017 4:43 PM
To: Miles, James; Bookman, Robert; Toney, Anthony; Doa, Maria; Pratt, Stacie; daw, harry; Gorman, John; Klevs, Mardi; Star, David; Garvey, Mark; Tucker, Marlene; Ellis, Tony; Kemker, Carol; Sullivan, Greg; Saenz, Diana; Martinez, Jeffrey; King, Carol; Denton, Loren; Paul Buellesbach; Dan-Tam Nguyen; Daryl Hudson; Schulz, Susan; DeDora, Caroline; Davis, Lauren O.; Gordon, Scott; Fite, Mark; George, Verne; Bates, Keith; Mitchell, Ken; Anderson, Kate; Bean, Mark; Henry, Tala; Allison, Rose; Swan, Russell
Cc: Poy, Thomas; Speir, Jeffrey; Collins, Charlie
Subject: Chemours - Enforcement Coordination Call
When: Occurs every 2 week(s) on Tuesday effective 8/15/2017 until 9/26/2017 from 12:30 PM to 1:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Personal Phone / Ex. 6

Setting up a reoccurring bi-weekly call through Sept. for this matter, per 7/31/17 discussion

Appointment

To: Miles, James [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6c27d6e7b72e48508ef8ae5768ccaad3-JMiles]; Bookman, Robert [Bookman.Robert@epa.gov]; Pratt, Stacie [Pratt.Stacie@epa.gov]; daw, harry [daw.harry@epa.gov]; Gorman, John [Gorman.John@epa.gov]; Klevs, Mardi [klevs.mardi@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Denton, Loren [Denton.Loren@epa.gov]; Paul Buellesbach [paul.buellesbach@erg.com]; Dan-Tam Nguyen [Dan-Tam.Nguyen@erg.com]; Daryl Hudson [Daryl.Hudson@erg.com]; Schulz, Susan [Schulz.Susan@epa.gov]; DeDora, Caroline [DeDora.Caroline@epa.gov]; Davis, Lauren O. [Davis.LaurenO@epa.gov]; Gordon, Scott [Gordon.Scott@epa.gov]; Fite, Mark [Fite.Mark@epa.gov]; George, Verne [George.Verne@epa.gov]; Bates, Keith [Bates.Keith@epa.gov]; Mitchell, Ken [Mitchell.Ken@epa.gov]; Bean, Mark [Bean.Mark@epa.gov]; Toney, Anthony [Toney.Anthony@epa.gov]; Doa, Maria [Doa.Maria@epa.gov]; Star, David [star.david@epa.gov]; Garvey, Mark [Garvey.Mark@epa.gov]; Tucker, Marlene [Tucker.Marlene@epa.gov]; Ellis, Tony [Ellis.Tony@epa.gov]; Sullivan, Greg [Sullivan.Greg@epa.gov]; Saenz, Diana [Saenz.Diana@epa.gov]; Martinez, Jeffrey [Martinez.Jeffrey@epa.gov]; King, Carol [King.Carol@epa.gov]; Anderson, Kate [Anderson.Kate@epa.gov]; Henry, Tala [Henry.Tala@epa.gov]; Allison, Rose [Allison.Rose@epa.gov]; Swan, Russell [Swan.Russell@epa.gov]

CC: Poy, Thomas [poy.thomas@epa.gov]; Speir, Jeffrey [speir.jeffrey@epa.gov]; Collins, Charlie [collins.charlie@epa.gov]; Aubee, Catherine [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=18e81c76bba145f1948ed5641919deb1-Aubee, Catherine]; rogers, rick [rogers.rick@epa.gov]; Wilson, Jennifer [wilson.jenniferA@epa.gov]; Day, Christopher [Day.Christopher@epa.gov]; Coe, Mary [Coe.Mary@epa.gov]; Ramalho, Louis [Ramalho.Louis@epa.gov]; Harris, Kimberly [harris.kimberly@epa.gov]; Unger, LouAnn [unger.louann@epa.gov]; Bair, Rita [bair.rita@epa.gov]; Shoven, Heather [shoven.heather@epa.gov]; Clark, Jacqueline [clark.jacqueline@epa.gov]; Duchovnay, Andrew [Duchovnay.Andrew@epa.gov]; Field, Stephen [Field.Stephen@epa.gov]

Start: 8/29/2017 4:30:00 PM
End: 8/29/2017 5:00:00 PM

Recurrence: (none)

Organizer: Miles, James[miles.james@epa.gov]

Subject: Chemours - Enforcement Coordination Call

Start Time: Tue 8/15/2017 4:30:00 PM (UTC)

End Time: Tue 8/15/2017 5:00:00 PM (UTC)

Required Attendees: Bookman, Robert; Pratt, Stacie; daw, harry; Gorman, John; Klevs, Mardi; Kemker, Carol; Denton, Loren; Paul Buellesbach; Dan-Tam Nguyen; Daryl Hudson; Schulz, Susan; DeDora, Caroline; Davis, Lauren O.; Fite, Mark; George, Verne; Bates, Keith; Mitchell, Ken; Bean, Mark; Toney, Anthony; Doa, Maria; Star, David; Garvey, Mark; Tucker, Marlene; Ellis, Tony; Sullivan, Greg; Saenz, Diana; Martinez, Jeffrey; King, Carol; Anderson, Kate; Henry, Tala; Allison, Rose; Swan, RussellToney, Anthony; Doa, Maria; Star, David; Garvey, Mark; Tucker, Marlene; Ellis, Tony; Sullivan, Greg; Saenz, Diana; Martinez, Jeffrey; King, Carol; Anderson, Kate; Henry, Tala; Allison, Rose; Swan, Russell; Schulz, Susan; Bookman, Robert; Pratt, Stacie; daw, harry; Gorman, John; Klevs, Mardi; Kemker, Carol; Denton, Loren; Paul Buellesbach; Dan-Tam Nguyen; Daryl Hudson; DeDora, Caroline; Davis, Lauren O.; Gordon, Scott; Fite, Mark; George, Verne; Bates, Keith; Mitchell, Ken; Bean, Mark

Optional Attendees: Poy, Thomas; Speir, Jeffrey; Collins, Charlie; rogers, rick; Wilson, Jennifer; Harris, Kimberly; Clark, Jacqueline; Duchovnay, Andrew; Day, Christopher; Ramalho, Louis; Unger, LouAnn; Bair, Rita; Shoven, Heather; Field, StephenUnger, LouAnn; Bair, Rita; Shoven, Heather; Field, Stephen; Baptista, Chrisna; Poy, Thomas; Speir, Jeffrey; Collins, Charlie; Aubee, Catherine; rogers, rick; Wilson, Jennifer; Harris, Kimberly; Clark, Jacqueline; Duchovnay, Andrew; Day, Christopher; Coe, Mary; Ramalho, Louis; Lewis, Jennifer

Agenda for Gen-X Update Call

--12:30 Conference Call (30 minutes)

I. HQ Discussion (15 minutes)

a. Enforcement/Investigatory / Ex. 7(a)

b. 8/9/17 EPA Call with State and Local Officials from North Carolina

c. Enforcement/Investigatory / Ex. 7(a)

II. Regional Update (15 minutes)

a. Region 4 inspection follow-up on requested information

b. Any new items to raise by Regions

To: Libelo, Laurence[Libelo.Laurence@epa.gov]
Cc: Fehrenbacher, Cathy[Fehrenbacher.Cathy@epa.gov]; Aubee, Catherine[Aubee.Catherine@epa.gov]
From: Tobias, David
Sent: Mon 6/4/2018 9:30:50 PM
Subject: FW: [For revision by Thu, 6/7] ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
DRAFT AGENCY Tox Assessment for GenX Chemicals_Sec 1 and 2 for OPPT 06-4-18.docx
ORD Gen X consolidated comments for OPPT.DOCX

Hello Laurence

I mentioned this to Cathy and she thought it would be appropriate for you to provide input on these.

Send anything you have to me by noon on Wednesday. Please do not put in another comment box as a response to a comment in the document, instead provide a suggestion in the document for how to improve the text to address the comment.

Tell me if you have questions

David A. Tobias
202.564.8534
6334 P - WJC East
Risk Assessment Division (RAD)
Office of Pollution Prevention and Toxics (OPPT)
My office hours : 8:30 am - 5:00 pm

From: Aubee, Catherine
Sent: Monday, June 04, 2018 1:00 PM
To: Babcock, Amy <babcock.amy@epa.gov>; Benson, Amy <Benson.Amy@epa.gov>; Brinkerhoff, Chris <Brinkerhoff.Chris@epa.gov>; Tobias, David <Tobias.David@epa.gov>; Olson, Bethany <olson.bethany@epa.gov>
Cc: Henry, Tala <Henry.Tala@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>
Subject: [For revision by Thu, 6/7] ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
Importance: High

Internal draft, deliberative

Hello all,

Please see attached comments from internal (EPA) peer review.

Please send me any edits by **Thursday, June 7**, so we can collate and reconcile as needed.

David, let me know if you are able to handle comments on p-chem/fate.

Bethany, I believe CCD contributed to the use section. I'm happy to incorporate any edits you might have in response to the comments.

Best,
Catherine

From: Strong, Jamie
Sent: Monday, June 04, 2018 9:41 AM
To: Henry, Tala <Henry.Tala@epa.gov>
Cc: Behl, Betsy <Behl.Betsy@epa.gov>; Jacobs, Brittany <jacobs.brittany@epa.gov>; Miller, Gregory <Miller.Gregory@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>
Subject: FW: ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
Importance: High

Tala,
Attached are comments received from the Agency review on the sections of GenX developed by OPPT. The first document is ORD's consolidated comments (they had a lot and we didn't have time to move over into draft document). The second is the draft document Sections 1-2 with comments from all other program and regions.

No one sent a redline markup of the Appendix B document that was sent out separately. The main thrust of the Appendix B comments was that the content should be better integrated into the main body of the document.

Please provide us with edits by Friday June 8th.

Jamie

Jamie B. Strong | Chief, Human Health Risk Assessment Branch
Health and Ecological Criteria Division | Office of Science and Technology | Office of Water
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW, 4301-T, Washington, DC 20460
☎ Phone: (202) 566-0056 | strong.jamie@epa.gov

To: EL-Zoobi, Majd[El-Zoobi.Majd@epa.gov]
Cc: Aubee, Catherine[Aubee.Catherine@epa.gov]; Eisenreich, Karen[Eisenreich.Karen@epa.gov]; Nguyen, Nhan[Nguyen.Nhan@epa.gov]
From: Olson, Bethany
Sent: Tue 6/19/2018 7:01:28 PM
Subject: RE: Chemours' Occupational Exposure Monitoring Data
Sanitized Consent Order P08-0508 and P08-0509.pdf

Hi Majd,

As discussed this morning, I have attached the Consent Order for P-08-0508/0509. Consent Order page 16 (page 32 of the PDF) starts detailing the sampling and analytical method for monitoring data under the NCEL section. Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Let me know if you have other questions about that.

Bethany

From: EL-Zoobi, Majd
Sent: Friday, June 15, 2018 9:55 AM
To: Olson, Bethany <olson.bethany@epa.gov>
Cc: Aubee, Catherine <Aubee.Catherine@epa.gov>; Eisenreich, Karen <Eisenreich.Karen@epa.gov>; Nguyen, Nhan <Nguyen.Nhan@epa.gov>
Subject: Chemours' Occupational Exposure Monitoring Data

Hi Bethany,
Chemours submitted occupational exposure data. According to ERG, this data was not submitted pursuant to the Consent Order. Can you confirm this? Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Thanks,

Majd El-Zoobi, PE
Chemical Engineer
US Environmental Protection Agency,
Office of Chemical Safety and Polution Prevention (OCSPP)
O: (202)564-8537

Message

From: Doa, Maria [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=99E502A905374B0B890DB9B22E18D92E-MDOA02]
Sent: 2/5/2018 8:29:37 PM
To: Clark, Sharon [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6821d9dde270456caa67a7114e49f707-Clark, Sharon]; Scott, Elizabeth [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=52de4d2d6bc44938908ca2e010e9834a-Scott, Elizabeth]; Blunck, Christopher [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=827cd31fd0484c319e5a2e7511f65461-Blunck, Christopher]; Pierce, Alison [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=036313052e20472ca55f7733de62f969-APierce]
CC: Henry, Tala [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8bfc0a617a4a43baa8856541c70622be-THENRY02]; Aubee, Catherine [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=18e81c76bba145f1948ed5641919deb1-Aubee, Catherine]; Moyer, Adam [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=Moyer, Adam]; Behrsing, Tracy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=Behrsing, Tracy]; EL-Zoobi, Majd [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=676c0e3a1f234cb4a7728cd98f1a24fb-El-Zoobi, Majd]
Subject: NB 2/7 Chemours/Gen-X discussion
Attachments: P-08-0508-0509 Briefing Paper - 2-5-18 - clean.docx

Maria J. Doa, Ph.D.
Director
Chemical Control Division
Office of Chemical Safety and Pollution Prevention
United States Environmental Protection Agency
1200 Pennsylvania Ave, NW
Washington, DC 20016

Personal Phone / Ex. 6

To: Aubee, Catherine[Aubee.Catherine@epa.gov]
From: Miles, James
Sent: Thur 11/30/2017 7:21:58 PM
Subject: Draft GenX Paper for OECA Briefing With Enforcement/Investigatory / Ex. 7(a)
Chemours GenX Briefing Paper 112817 for Dec 4.docx
Chemours GenX Briefing Paper 11_29_17 for December_rev.docx

Enforcement Confidential -- Do Not Release

Here you go

From: Garvey, Mark
Sent: Tuesday, November 28, 2017 5:25 PM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; George, Verne <George.Verne@epa.gov>; Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With Enforcement/Investigatory / Ex. 7(a)

To Region 4 TSCA & Water teams,

I'm attaching a revised version of the briefing paper Jeff Speir sent earlier today. It now includes Enforcement/Investigatory / Ex. 7(a) along with a few sentences mentioning the Regions 3 and 2 involvement. After speaking with my Division Director this afternoon, this effort appears to be an extremely heavy lift to get ready by Thursday for my Office Director. While I'm still requesting comments by Thursday at noon, we will be talking with our Office Director tomorrow morning to see if there is any flexibility in the scheduling of the briefing paper. There are a lot of fast moving details here and we want to be accurate with Susan Bodine.
We will also be asking about the level of participation at the Susan Bodine meeting. We anticipate that each Region will be asked to participate. We can discuss this on Thursday afternoon's GenX bi-weekly general discussion that James Miles set up.

Please note that this is not a meeting requesting senior management direction, but rather an informational briefing for Susan Bodine.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Speir, Jeffrey
Sent: Tuesday, November 28, 2017 12:08 PM
To: Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Draft GenX Paper for OECA Briefing

Hello, Region 4 Water Team:

The Director of the Office of Civil Enforcement at Headquarters has requested that we brief OECA leadership on GenX. The briefing will be for Larry Starfield, Patrick Traylor, and Susan Bodine, the Administrator's counsel for enforcement who has expressed interest in this matter. The briefing is scheduled for Monday, December 4 at 2:00 pm. Note: This briefing is not a request for an OECA decision; rather, it is a presentation of the issues and our federal authorities.

We have prepared the attached draft briefing paper. It somewhat resembles a briefing paper you likely saw in August, with more emphasis on background facts and the State's actions, and less emphasis on enforcement "options." My counterpart in our Enforcement/Investigatory / Ex. 7(a) division will send his updates to the relevant Region 4 Enforcement/Investigatory / Ex. 7(a) folks.

Unfortunately, the deadline to send up the briefing paper is tight. Please provide any feedback you may have to me and Mark Garvey (cc'd) by Thursday, November 30 at noon. I apologize about the timing.

Please let me know if you have any questions or if you would like to discuss this further.

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

Message

From: Aubee, Catherine [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=18E81C76BBA145F1948ED5641919DEB1-AUBEE, CATHERINE]
Sent: 2/8/2018 5:59:25 PM
To: Henry, Tala [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8bfc0a617a4a43baa8856541c70622be-THENRY02]; EL-Zoobi, Majd [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=676c0e3a1f234cb4a7728cd98f1a24fb-El-Zoobi, Majd]; Behrsing, Tracy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=Behrsing, Tracy]
Subject: Fwd: Chemours Meeting Feb. 8 -presentation
Attachments: NC_SAB_Shea_01262018.pdf; ATT00001.htm; Feb. 8th PP to EPA.PDF; ATT00002.htm

Presentation attached. Apologies if you've already received this.

Best,
Catherine

Sent from my iPhone

Begin forwarded message:

From: "Garvey, Mark" <Garvey.Mark@epa.gov>
To: "Saenz, Diana" <Saenz.Diana@epa.gov>, "Miles, James" <miles.james@epa.gov>, "Toney, Anthony" <Toney.Anthony@epa.gov>, "Doa, Maria" <Doa.Maria@epa.gov>, "Star, David" <star.david@epa.gov>, "Tucker, Marlene" <Tucker.Marlene@epa.gov>, "Ellis, Tony" <Ellis.Tony@epa.gov>, "Sullivan, Greg" <Sullivan.Greg@epa.gov>, "Martinez, Jeffrey" <Martinez.Jeffrey@epa.gov>, "King, Carol" <King.Carol@epa.gov>, "Anderson, Kate" <Anderson.Kate@epa.gov>, "Henry, Tala" <Henry.Tala@epa.gov>, "Allison, Rose" <Allison.Rose@epa.gov>, "Swan, Russell" <Swan.Russell@epa.gov>, "DeDora, Caroline" <DeDora.Caroline@epa.gov>, "Unger, LouAnn" <unger.louann@epa.gov>, "Bair, Rita" <bair.rita@epa.gov>, "Shoven, Heather" <shoven.heather@epa.gov>, "Field, Stephen" <Field.Stephen@epa.gov>, "Schwartz, Paul" <Schwartz.Paul@epa.gov>, "Davis, Molly" <Davis.Molly@epa.gov>, "Ireland, Laurie" <Ireland.Laurie@epa.gov>, "Moyer, Adam" <moyer.adam@epa.gov>, "Buso, Roberto X" <Buso.Roberto@epa.gov>, "Reinhart, Roger" <Reinhart.Roger@epa.gov>, "Valberg, Amelia" <valberg.amelia@epa.gov>, "Bean, Mark" <Bean.Mark@epa.gov>, "Bookman, Robert" <Bookman.Robert@epa.gov>, "Pratt, Stacie" <Pratt.Stacie@epa.gov>, "daw, harry" <daw.harry@epa.gov>, "Gorman, John" <Gorman.John@epa.gov>, "Klevs, Mardi" <klevs.mardi@epa.gov>, "Kemker, Carol" <Kemker.Carol@epa.gov>, "Denton, Loren" <Denton.Loren@epa.gov>, "Schulz, Susan" <Schulz.Susan@epa.gov>, "Davis, Lauren O." <Davis.LaurenO@epa.gov>, "Gordon, Scott" <Gordon.Scott@epa.gov>, "Fite, Mark" <Fite.Mark@epa.gov>, "George, Verne" <George.Verne@epa.gov>, "Bates, Keith" <Bates.Keith@epa.gov>, "Mitchell, Ken" <Mitchell.Ken@epa.gov>, "Pollins, Mark" <Pollins.Mark@epa.gov>, "Theis, Joseph" <Theis.Joseph@epa.gov>, "Bahk, Benjamin" <Bahk.Benjamin@epa.gov>, "Poy, Thomas" <poy.thomas@epa.gov>, "Speir, Jeffrey" <speir.jeffrey@epa.gov>, "Collins, Charlie" <collins.charlie@epa.gov>, "Aubee, Catherine" <Aubee.Catherine@epa.gov>, "rogers, rick" <rogers.rick@epa.gov>, "Wilson, Jennifer" <wilson.jenniferA@epa.gov>, "Harris, Kimberly" <harris.kimberly@epa.gov>, "Clark, Jacqueline" <clark.jacqueline@epa.gov>, "Duchovnay, Andrew" <Duchovnay.Andrew@epa.gov>, "Day, Christopher" <Day.Christopher@epa.gov>, "Coe, Mary" <Coe.Mary@epa.gov>, "Ramalho, Louis" <Ramalho.Louis@epa.gov>, "Lewis, Jennifer" <Lewis.Jennifer@epa.gov>, "Baptista, Chrisna" <Baptista.Chrisna@epa.gov>, "Niess, Claudia" <niess.claudia@epa.gov>, "Spann, Tony" <Spann.Tony@epa.gov>, "Timsina, Gopal" <Timsina.Gopal@epa.gov>, "Allenbach, Becky"

<Allenbach.Becky@epa.gov>, "Mancusi-Ungaro, Philip" <Mancusi-Ungaro.Philip@epa.gov>, "Bush, William" <Bush.William@epa.gov>, "Janovitz, Sara" <Janovitz.Sara@epa.gov>, "Hall, Renea" <Hall.Renea@epa.gov>, "Shell, Karrie-Jo" <Shell.Karrie-Jo@epa.gov>, "Devkota, Om" <devkota.om@epa.gov>, "Jones, Aaryn" <Jones.Aaryn@epa.gov>, "Vendinello, Lynn" <Vendinello.Lynn@epa.gov>, "Oif, Leslie" <Oif.Leslie@epa.gov>, "Rubini, Suzanne" <Rubini.Suzanne@epa.gov>, "Walker, Mary" <walker.mary@epa.gov>, "Lamberth, Larry" <Lamberth.Larry@epa.gov>, "Doa, Maria" <Doa.Maria@epa.gov>
Cc: "Valberg, Amelia" <valberg.amelia@epa.gov>, "Twickler, Donna" <twickler.donna@epa.gov>, "Star, David" <star.david@epa.gov>, "Lindstrom, Andrew" <Lindstrom.Andrew@epa.gov>, "Gillespie, Andrew" <Gillespie.Andrew@epa.gov>, "Buckley, Timothy" <Buckley.Timothy@epa.gov>, "'Migliarino, Maurice'" <Maurice.Migliarino@dep.nj.gov>, "Palmer, Leif" <Palmer.Leif@epa.gov>, "'Maybury, Steve'" <Steve.Maybury@dep.nj.gov>, "rogers, rick" <rogers.rick@epa.gov>, "Bennett, James" <bennett.james@epa.gov>, "'Lane, Bill F'" <Bill.Lane@ncdenr.gov>, "'Holman, Sheila'" <sheila.holman@ncdenr.gov>, "Zobrist, Marcus" <Zobrist.Marcus@epa.gov>, "Burneson, Eric" <Burneson.Eric@epa.gov>, "Thompkins, Anita" <Thompkins.Anita@epa.gov>, "Born, Tom" <Born.Tom@epa.gov>, "'michael.scott@ncdenr.gov'" <michael.scott@ncdenr.gov>, "michael.abraczinskas@ncdenr.gov" <michael.abraczinskas@ncdenr.gov>, "Michael Pjetraj" <michael.pjetraj@ncdenr.gov>, "'Fbenzoni@ncdoj.gov'" <Fbenzoni@ncdoj.gov>, "'Aspiller@ncdoj.gov'" <Aspiller@ncdoj.gov>, "'Ken.Kloo@dep.nj.govNJ'" <Ken.Kloo@dep.nj.govNJ>, "'Wayne.Howitz@dep.nj.gov'" <Wayne.Howitz@dep.nj.gov>
Subject: RE: Chemours Meeting Feb. 8 -presentation

Chemours Presentation for the meeting in 30 minutes

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Thursday, February 08, 2018 12:30 PM
To: Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Star, David <star.david@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Martinez, Jeffrey <Martinez.Jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Anderson, Kate <Anderson.Kate@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>; Swan, Russell <Swan.Russell@epa.gov>; DeDora, Caroline <Dedora.Caroline@epa.gov>; Unger, LouAnn <unger.louann@epa.gov>; Bair, Rita <bair.rita@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Field, Stephen <Field.Stephen@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>; Ireland, Laurie <Ireland.Laurie@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Reinhart, Roger <Reinhart.Roger@epa.gov>; Valberg, Amelia <valberg.amelia@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>; daw, harry <daw.harry@epa.gov>; Gorman, John <Gorman.John@epa.gov>; Klevs, Mardi <klevs.mardi@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Schulz, Susan

<Schulz.Susan@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Poy, Thomas <poy.thomas@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; rogers, rick <rogers.rick@epa.gov>; Wilson, Jennifer <wilson.jenniferA@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Day, Christopher <Day.Christopher@epa.gov>; Coe, Mary <Coe.Mary@epa.gov>; Ramalho, Louis <Ramalho.Louis@epa.gov>; Lewis, Jennifer <Lewis.Jennifer@epa.gov>; Baptista, Chrisna <Baptista.Chrisna@epa.gov>; Niess, Claudia <niess.claudia@epa.gov>; Spann, Tony <Spann.Tony@epa.gov>; Timsina, Gopal <Timsina.Gopal@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Mancusi-Ungaro, Philip <Mancusi-Ungaro.Philip@epa.gov>; Bush, William <Bush.William@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Devkota, Om <devkota.om@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>
Cc: Valberg, Amelia <valberg.amelia@epa.gov>; Twickler, Donna <twickler.donna@epa.gov>; Star, David <star.david@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Gillespie, Andrew <Gillespie.Andrew@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; 'Migliarino, Maurice' <Maurice.Migliarino@dep.nj.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; 'Maybury, Steve' <Steve.Maybury@dep.nj.gov>; rogers, rick <rogers.rick@epa.gov>; Bennett, James <bennett.james@epa.gov>; 'Lane, Bill F' <Bill.Lane@ncdenr.gov>; 'Holman, Sheila' <sheila.holman@ncdenr.gov>; Zobrist, Marcus <Zobrist.Marcus@epa.gov>; Burneson, Eric <Burneson.Eric@epa.gov>; Thompkins, Anita <Thompkins.Anita@epa.gov>; Born, Tom <Born.Tom@epa.gov>; 'michael.scott@ncdenr.gov' <michael.scott@ncdenr.gov>; michael.abraczinskas@ncdenr.gov; 'Pjetraj, Michael' <michael.pjetraj@ncdenr.gov>; 'Fbenzoni@ncdoj.gov' <Fbenzoni@ncdoj.gov>; 'Aspiller@ncdoj.gov' <Aspiller@ncdoj.gov>; 'Ken.Kloo@dep.nj.govNJ' <Ken.Kloo@dep.nj.govNJ>; 'Wayne.Howitz@dep.nj.gov' <Wayne.Howitz@dep.nj.gov>
Subject: RE: Chemours Meeting Feb. 8 -Adding Chemours List PLUS Latest Attendee List to 12:15

I missed a couple names from Regions 4 and one in Region 3.

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Thursday, February 08, 2018 11:50 AM
To: Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Star, David <star.david@epa.gov>;

Tucker, Marlene <Tucker.Marlene@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Martinez, Jeffrey <Martinez.Jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Anderson, Kate <Anderson.Kate@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>; Swan, Russell <Swan.Russell@epa.gov>; DeDora, Caroline <Dedora.Caroline@epa.gov>; Unger, LouAnn <unger.louann@epa.gov>; Bair, Rita <bair.rita@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Field, Stephen <Field.Stephen@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>; Ireland, Laurie <Ireland.Laurie@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Reinhart, Roger <Reinhart.Roger@epa.gov>; Valberg, Amelia <valberg.amelia@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>; daw, harry <daw.harry@epa.gov>; Gorman, John <Gorman.John@epa.gov>; Klevs, Mardi <klevs.mardi@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Poy, Thomas <poy.thomas@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; rogers, rick <rogers.rick@epa.gov>; Wilson, Jennifer <wilson.jenniferA@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Day, Christopher <Day.Christopher@epa.gov>; Coe, Mary <Coe.Mary@epa.gov>; Ramalho, Louis <Ramalho.Louis@epa.gov>; Lewis, Jennifer <Lewis.Jennifer@epa.gov>; Baptista, Chrisna <Baptista.Chrisna@epa.gov>; Niess, Claudia <niess.claudia@epa.gov>; Spann, Tony <Spann.Tony@epa.gov>; Timsina, Gopal <Timsina.Gopal@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Mancusi-Ungaro, Philip <Mancusi-Ungaro.Philip@epa.gov>; Bush, William <Bush.William@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Devkota, Om <devkota.om@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>

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Subject: RE: Chemours Meeting Feb. 8 -Adding Chemours List PLUS Latest Attendee List

Combines Chemours and EPA Attendees

Mark Garvey
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Attorney
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garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Thursday, February 08, 2018 11:46 AM
To: Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Star, David <star.david@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Martinez, Jeffrey <Martinez.Jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Anderson, Kate <Anderson.Kate@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>; Swan, Russell <Swan.Russell@epa.gov>; DeDora, Caroline <Dedora.Caroline@epa.gov>; Unger, LouAnn <unger.louann@epa.gov>; Bair, Rita <bair.rita@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Field, Stephen <Field.Stephen@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>; Ireland, Laurie <Ireland.Laurie@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Reinhart, Roger <Reinhart.Roger@epa.gov>; Valberg, Amelia <valberg.amelia@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>; daw, harry <daw.harry@epa.gov>; Gorman, John <Gorman.John@epa.gov>; Klevs, Mardi <klevs.mardi@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Poy, Thomas <poy.thomas@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; rogers, rick <rogers.rick@epa.gov>; Wilson, Jennifer <wilson.jenniferA@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Day, Christopher <Day.Christopher@epa.gov>; Coe, Mary <Coe.Mary@epa.gov>; Ramalho, Louis <Ramalho.Louis@epa.gov>; Lewis, Jennifer <Lewis.Jennifer@epa.gov>; Baptista, Chrisna <Baptista.Chrisna@epa.gov>; Niess, Claudia <niess.claudia@epa.gov>; Spann, Tony <Spann.Tony@epa.gov>; Timsina, Gopal <Timsina.Gopal@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Mancusi-Ungaro, Philip <Mancusi-Ungaro.Philip@epa.gov>; Bush, William <Bush.William@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Devkota, Om <devkota.om@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>
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<Burneson.Eric@epa.gov>; Thompkins, Anita <Thompkins.Anita@epa.gov>; Born, Tom <Born.Tom@epa.gov>; 'michael.scott@ncdenr.gov' <michael.scott@ncdenr.gov>; michael.abraczinskas@ncdenr.gov; 'Pjetraj, Michael' <michael.pjetraj@ncdenr.gov>; 'Fbenzoni@ncdoj.gov' <Fbenzoni@ncdoj.gov>; 'Aspiller@ncdoj.gov' <Aspiller@ncdoj.gov>; 'Ken.Kloo@dep.nj.govNJ' <Ken.Kloo@dep.nj.govNJ>; 'Wayne.Howitz@dep.nj.gov' <Wayne.Howitz@dep.nj.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: RE: Chemours Meeting Feb. 8 - Latest Attendee List

Updated attendees list to 11:30 today

Mark Garvey
EPA Headquarters
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Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Babcock, Amy[babcock.amy@epa.gov]; Benson, Amy[Benson.Amy@epa.gov]; Brinkerhoff, Chris[Brinkerhoff.Chris@epa.gov]; Tobias, David[Tobias.David@epa.gov]; Olson, Bethany[olson.bethany@epa.gov]
Cc: Henry, Tala[Henry.Tala@epa.gov]; Fehrenbacher, Cathy[Fehrenbacher.Cathy@epa.gov]
From: Aubee, Catherine
Sent: Mon 6/4/2018 5:00:11 PM
Subject: [For revision by Thu, 6/7] ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
DRAFT AGENCY Tox Assessment for GenX Chemicals_Sec 1 and 2 for OPPT 06-4-18.docx
ORD Gen X consolidated comments for OPPT.DOCX

Internal draft, deliberative

Hello all,

Please see attached comments from internal (EPA) peer review.

Please send me any edits by **Thursday, June 7**, so we can collate and reconcile as needed.

David, let me know if you are able to handle comments on p-chem/fate.

Bethany, I believe CCD contributed to the use section. I'm happy to incorporate any edits you might have in response to the comments.

Best,
Catherine

From: Strong, Jamie
Sent: Monday, June 04, 2018 9:41 AM
To: Henry, Tala <Henry.Tala@epa.gov>
Cc: Behl, Betsy <Behl.Betsy@epa.gov>; Jacobs, Brittany <jacobs.brittany@epa.gov>; Miller, Gregory <Miller.Gregory@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>
Subject: FW: ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
Importance: High

Tala,
Attached are comments received from the Agency review on the sections of GenX developed by OPPT. The first document is ORD's consolidated comments (they had a lot and we didn't have time to move over into draft document). The second is the draft document Sections 1-2 with comments from all other program and regions.

No one sent a redline markup of the Appendix B document that was sent out separately. The main thrust of the Appendix B comments was that the content should be better integrated into the main body of the document.

Please provide us with edits by Friday June 8th.

Jamie

Jamie B. Strong | Chief, Human Health Risk Assessment Branch
Health and Ecological Criteria Division | Office of Science and Technology | Office of Water
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW, 4301-T, Washington, DC 20460
☎ Phone: (202) 566-0056 | strong.jamie@epa.gov

To: Benson, Amy[Benson.Amy@epa.gov]; Babcock, Amy[babcock.amy@epa.gov]
From: Camacho, Iris
Sent: Tue 5/15/2018 2:20:34 PM
Subject: FW: Draft GenX chemicals toxicity values for agency review
DRAFT AGENCY Tox Assessment for GenX Chemicals_05-14-18.docx

This is the document

To: Babcock, Amy[babcock.amy@epa.gov]
From: Brinkerhoff, Chris
Sent: Thur 6/7/2018 3:48:50 PM
Subject: RE: [For revision by Thu, 6/7] ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
DRAFT AGENCY Tox Assessment for GenX Chemicals_Sec 1 and 2 for OPPT 06-4-18 cjb.docx

I took a stab at the OLEM comment about gestation/lactation transfer in the TK section. I attached my track changes version. Can you check if this is the comment you are asking about? Maybe it's already done? Wouldn't that be nice ◆

From: Babcock, Amy
Sent: Thursday, June 07, 2018 11:43 AM
To: Henry, Tala <Henry.Tala@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Benson, Amy <Benson.Amy@epa.gov>; Brinkerhoff, Chris <Brinkerhoff.Chris@epa.gov>; Tobias, David <Tobias.David@epa.gov>; Olson, Bethany <olson.bethany@epa.gov>
Cc: Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>
Subject: RE: [For revision by Thu, 6/7] ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics

Hi Tala,

I've run into a snag with the gestation/lactation kinetics. I think the authors are implying gestational transfer by comparing early postnatal plasma levels with ones from later in development…but the authors do not come right out and make the statement. In order to address OLEM's comments, can I made editorial comments about what appears to be the intent of the data presentation? Or would you prefer I stick to the wording used by the authors in the report and appendices?

Thank you,
Amy

Amy L. Babcock, MPH, DABT, MRSB
Toxicologist
U. S. Environmental Protection Agency
Office of Pollution Prevention and Toxics
Mail Code 7403M
1200 Pennsylvania Avenue, NW
Washington, D. C. 20460-0001
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e-mail: babcock.amy@epa.gov

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USEPA OPPT
WJC East, Room 6308(FF)
1201 Constitution Avenue, NW
Washington, D. C. 20004

From: Henry, Tala
Sent: Monday, June 4, 2018 6:27 PM
To: Aubee, Catherine <Aubee.Catherine@epa.gov>; Babcock, Amy <babcock.amy@epa.gov>; Benson, Amy <Benson.Amy@epa.gov>; Brinkerhoff, Chris <Brinkerhoff.Chris@epa.gov>; Tobias, David <Tobias.David@epa.gov>; Olson, Bethany <olson.bethany@epa.gov>
Cc: Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>
Subject: RE: [For revision by Thu, 6/7] ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics

Amy Babcock,
Please focus on the

Distribution during Gestation and Lactation

Section in the Section 1 and 2 document…looks like going to have to pull up the study to make clarifying edits to OLEM comments.

Tala R. Henry, Ph.D.
Acting Deputy Director
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency

T: 202-564-2959
E: henry.tala@epa.gov

From: Henry, Tala
Sent: Monday, June 04, 2018 5:15 PM
To: Aubee, Catherine <Aubee.Catherine@epa.gov>; Babcock, Amy <babcock.amy@epa.gov>; Benson, Amy <Benson.Amy@epa.gov>; Brinkerhoff, Chris <Brinkerhoff.Chris@epa.gov>; Tobias, David <Tobias.David@epa.gov>; Olson, Bethany <olson.bethany@epa.gov>
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I am nearly through the Section 1 and 2 document; so Do NOT work on that one unless you get a questions from me.

You can start on the ORD comments, BUT, I have to see the responses prior to sending on Friday so you will need to send by COB Wednesday.

Tala R. Henry, Ph.D.
Acting Deputy Director
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency

T: 202-564-2959
E: henry.tala@epa.gov

From: Aubee, Catherine
Sent: Monday, June 04, 2018 1:00 PM
To: Babcock, Amy <babcock.amy@epa.gov>; Benson, Amy <Benson.Amy@epa.gov>; Brinkerhoff, Chris <Brinkerhoff.Chris@epa.gov>; Tobias, David <Tobias.David@epa.gov>; Olson, Bethany <olson.bethany@epa.gov>
Cc: Henry, Tala <Henry.Tala@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>
Subject: [For revision by Thu, 6/7] ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
Importance: High

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Please provide us with edits by Friday June 8th.

Jamie

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1200 Pennsylvania Avenue, NW, 4301-T, Washington, DC 20460
☎ Phone: (202) 566-0056 | strong.jamie@epa.gov

To: Babcock, Amy[babcock.amy@epa.gov]
Cc: Henry, Tala[Henry.Tala@epa.gov]; Strong, Jamie[Strong.Jamie@epa.gov]; Behl, Betsy[Behl.Betsy@epa.gov]; Jacobs, Brittany[jacobs.brittany@epa.gov]
From: Miller, Gregory
Sent: Wed 4/25/2018 10:51:18 AM
Subject: FW: OW DRAFT Tox Assessment for GenX Chemicals_for discussion RAD 04-24-2018 v3.TH_ALB.docx
OW DRAFT Tox Assessment for GenX Chemicals_for discussion RAD 04-24-2018 v3.TH_ALB.docx

Thanks. Just to be clear, all of the comments you have sent over should be included in the file attached to this email, correct?

Let me talk with my team about how we can best address comments in the file that are directed to RAD staff.

Thanks again!

Greg Miller, Senior Environmental Health Scientist
Team Lead, Human Health Risk Assessment Branch
Office of Science and Technology, Health and Ecological Criteria Division
US Environmental Protection Agency, Office of Water
1200 Pennsylvania Ave, NW (MC 4304T)
Washington, DC 20460

phone: (202) 566-2310

From: Babcock, Amy
Sent: Tuesday, April 24, 2018 7:32 PM
To: Miller, Gregory <Miller.Gregory@epa.gov>
Cc: Henry, Tala <Henry.Tala@epa.gov>; Strong, Jamie <Strong.Jamie@epa.gov>; Behl, Betsy <Behl.Betsy@epa.gov>
Subject: OW DRAFT Tox Assessment for GenX Chemicals_for discussion RAD 04-24-2018 v3.TH_ALB.docx

Hi Greg,

This file contains comments from 2.3.4 (Metabolism) through the conceptual model.

Some of the comments in the files I've sent you today are things I can (should?) address. If you have any questions/concerns about incorporating Tala's questions/comments into your draft, please let me know. Perhaps we can find a way to work more closely on these edits?

Thank again,
Amy

To: Johnson, Maggie[Johnson.Maggie@epa.gov]
From: Babcock, Amy
Sent: Wed 7/11/2018 3:17:05 PM
Subject: FW: Revised PFBS Toxicity Evaluation
GenX_External Peer Review_charge questions_06 21 18.pdf
DRAFT EXT PEER REVIEW Human Health Tox Values for GenX Chemicals_06-21-1....pdf

FYI

From: Holsinger, Hannah
Sent: Monday, July 2, 2018 8:49 AM
To: Bahadori, Tina <Bahadori.Tina@epa.gov>; patricia.m.underwood.civ@mail.mil; maria.vargas@navy.mil; wanda.holmes@navy.mil; freeman.holifield.mil@mail.mil; andrew.rak@noblis.org; andrew.rak2.ctr@mail.mil; mark.s.johnson.civ@mail.mil; jennifer.corack@navy.mil; Anita.K.Meyer@usace.army.mil; james.s.smith454.civ@mail.mil; barry.marcel@us.af.mil; Sandra Howard <Sandra.Howard@HHS.GOV>; Suzanne_Fitzpatrick <Suzanne.Fitzpatrick@fda.hhs.gov>; Jason.Aungst@fda.hhs.gov; Penelope.Rice@fda.hhs.gov; Paul.South@fda.hhs.gov; wic1@cdc.gov; txf5@cdc.gov; pjb7@cdc.gov; Christopher.Weis@nih.gov; miller.aubrey@nih.gov; suzanne.fenton@nih.gov; michael.devito@nih.gov; birnbaumls@niehs.nih.gov; fjh1@cdc.gov; seg3@cdc.gov; eaw0@cdc.gov; iwa6@cdc.gov; oii2@cdc.gov; pxp5@cdc.gov; linda.s.wennerberg@nasa.gov; James_H_Kim@omb.eop.gov; mfocazio@usgs.gov; Terra.irons@va.gov; michael.j.quinn104.civ@mail.mil
Cc: Albert, Ryan <Albert.Ryan@epa.gov>; Grevatt, Peter <Grevatt.Peter@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Lambert, Jason <Lambert.Jason@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Owens, Beth <Owens.Beth@epa.gov>; Rodan, Bruce <rodan.bruce@epa.gov>; Gillespie, Andrew <Gillespie.Andrew@epa.gov>; Orme-Zavaleta, Jennifer <Orme-Zavaleta.Jennifer@epa.gov>; Burneson, Eric <Burneson.Eric@epa.gov>; Behl, Betsy <Behl.Betsy@epa.gov>; Donohue, Joyce <Donohue.Joyce@epa.gov>; Strong, Jamie <Strong.Jamie@epa.gov>; Mclain, Jennifer <Mclain.Jennifer@epa.gov>; Wadlington, Christina <Wadlington.Christina@epa.gov>; Tiago, Joseph <Tiago.Joseph@epa.gov>; Jacobs, Brittany <jacobs.brittany@epa.gov>; Miller, Gregory <Miller.Gregory@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Soares, Barbara <soares.barbara@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Babcock, Amy <babcock.amy@epa.gov>; Robbins, Chris <Robbins.Chris@epa.gov>
Subject: RE: Revised PFBS Toxicity Evaluation

Please also find attached the peer review draft of the GenX toxicity evaluation and revised charge questions.
Thanks!
Hannah

From: Bahadori, Tina
Sent: Friday, June 29, 2018 6:06 PM
To: patricia.m.underwood.civ@mail.mil; maria.vargas@navy.mil; wanda.holmes@navy.mil; freeman.holifield.mil@mail.mil; andrew.rak@noblis.org; andrew.rak2.ctr@mail.mil; mark.s.johnson.civ@mail.mil; jennifer.corack@navy.mil; Anita.K.Meyer@usace.army.mil; james.s.smith454.civ@mail.mil; barry.marcel@us.af.mil; Sandra Howard <Sandra.Howard@HHS.GOV>; Suzanne_Fitzpatrick <Suzanne.Fitzpatrick@fda.hhs.gov>; Jason.Aungst@fda.hhs.gov; Penelope.Rice@fda.hhs.gov; Paul.South@fda.hhs.gov; wic1@cdc.gov; txf5@cdc.gov; pjb7@cdc.gov; Christopher.Weis@nih.gov; miller.aubrey@nih.gov; suzanne.fenton@nih.gov; michael.devito@nih.gov; birnbaumls@niehs.nih.gov; fjh1@cdc.gov; seg3@cdc.gov; eaw0@cdc.gov; iwa6@cdc.gov; oii2@cdc.gov; pxp5@cdc.gov; linda.s.wennerberg@nasa.gov; James_H_Kim@omb.eop.gov; mfocazio@usgs.gov; Terra.irons@va.gov; michael.j.quinn104.civ@mail.mil
Cc: Albert, Ryan <Albert.Ryan@epa.gov>; Grevatt, Peter <Grevatt.Peter@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Lambert, Jason <Lambert.Jason@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Owens, Beth <Owens.Beth@epa.gov>; Rodan, Bruce <rodan.bruce@epa.gov>; Gillespie, Andrew <Gillespie.Andrew@epa.gov>; Orme-Zavaleta, Jennifer <Orme-Zavaleta.Jennifer@epa.gov>; Burneson, Eric <Burneson.Eric@epa.gov>; Behl, Betsy <Behl.Betsy@epa.gov>; Donohue, Joyce <Donohue.Joyce@epa.gov>; Strong, Jamie <Strong.Jamie@epa.gov>; Mclain, Jennifer <Mclain.Jennifer@epa.gov>; Holsinger, Hannah <Holsinger.Hannah@epa.gov>; Wadlington, Christina <Wadlington.Christina@epa.gov>; Tiago, Joseph <Tiago.Joseph@epa.gov>; Jacobs, Brittany <jacobs.brittany@epa.gov>; Miller, Gregory <Miller.Gregory@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Soares, Barbara <soares.barbara@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Babcock, Amy <babcock.amy@epa.gov>; Robbins, Chris <Robbins.Chris@epa.gov>
Subject: RE: Revised PFBS Toxicity Evaluation

Hello Again,
There seemed to be a lag in email delivery – I just wanted to resend without attachments and let you know these documents were transmitted today. If by chance you did not receive the version with attachments, please let me know and I will find another way to

get them to you. Have a great weekend.
Tina

From: Bahadori, Tina
Sent: Friday, June 29, 2018 6:02 PM
To: 'patricia.m.underwood.civ@mail.mil' <patricia.m.underwood.civ@mail.mil>; 'maria.vargas@navy.mil' <maria.vargas@navy.mil>; 'wanda.holmes@navy.mil' <wanda.holmes@navy.mil>; 'freeman.holifield.mil@mail.mil' <freeman.holifield.mil@mail.mil>; 'andrew.rak@noblis.org' <andrew.rak@noblis.org>; 'andrew.rak2.ctr@mail.mil' <andrew.rak2.ctr@mail.mil>; 'mark.s.johnson.civ@mail.mil' <mark.s.johnson.civ@mail.mil>; 'jennifer.corack@navy.mil' <jennifer.corack@navy.mil>; Anita.K.Meyer@usace.army.mil; 'james.s.smith454.civ@mail.mil' <james.s.smith454.civ@mail.mil>; 'barry.marcel@us.af.mil' <barry.marcel@us.af.mil>; Sandra Howard <Sandra.Howard@HHS.GOV>; Suzanne_Fitzpatrick <Suzanne.Fitzpatrick@fda.hhs.gov>; 'Jason.Aungst@fda.hhs.gov' <Jason.Aungst@fda.hhs.gov>; 'Penelope.Rice@fda.hhs.gov' <Penelope.Rice@fda.hhs.gov>; 'Paul.South@fda.hhs.gov' <Paul.South@fda.hhs.gov>; 'wic1@cdc.gov' <wic1@cdc.gov>; 'txf5@cdc.gov' <txf5@cdc.gov>; 'pjb7@cdc.gov' <pjb7@cdc.gov>; 'Christopher.Weis@nih.gov' <Christopher.Weis@nih.gov>; 'miller.aubrey@nih.gov' <miller.aubrey@nih.gov>; 'suzanne.fenton@nih.gov' <suzanne.fenton@nih.gov>; 'michael.devito@nih.gov' <michael.devito@nih.gov>; 'birnbaumls@niehs.nih.gov' <birnbaumls@niehs.nih.gov>; 'fjh1@cdc.gov' <fjh1@cdc.gov>; 'seg3@cdc.gov' <seg3@cdc.gov>; 'eaw0@cdc.gov' <eaw0@cdc.gov>; 'iwa6@cdc.gov' <iwa6@cdc.gov>; 'oii2@cdc.gov' <oii2@cdc.gov>; 'pxp5@cdc.gov' <pxp5@cdc.gov>; 'linda.s.wennerberg@nasa.gov' <linda.s.wennerberg@nasa.gov>; James_H_Kim@omb.eop.gov; 'mfocazio@usgs.gov' <mfocazio@usgs.gov>; 'Terra.irons@va.gov' <Terra.irons@va.gov>; 'michael.j.quinn104.civ@mail.mil' <michael.j.quinn104.civ@mail.mil>
Cc: Albert, Ryan <Albert.Ryan@epa.gov>; Grevatt, Peter <Grevatt.Peter@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Lambert, Jason <Lambert.Jason@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Owens, Beth <Owens.Beth@epa.gov>; Rodan, Bruce <rodan.bruce@epa.gov>; Gillespie, Andrew <Gillespie.Andrew@epa.gov>; Orme-Zavaleta, Jennifer <Orme-Zavaleta.Jennifer@epa.gov>; Burneson, Eric <Burneson.Eric@epa.gov>; Behl, Betsy <Behl.Betsy@epa.gov>; Donohue, Joyce <Donohue.Joyce@epa.gov>; Strong, Jamie <Strong.Jamie@epa.gov>; Mclain, Jennifer <Mclain.Jennifer@epa.gov>; Holsinger, Hannah <Holsinger.Hannah@epa.gov>; Wadlington, Christina <Wadlington.Christina@epa.gov>; Tiago, Joseph <Tiago.Joseph@epa.gov>; Jacobs, Brittany <Jacobs.Brittany@epa.gov>; Miller, Gregory <Miller.Gregory@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Soares, Barbara <soares.barbara@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Babcock, Amy <babcock.amy@epa.gov>; Robbins, Chris <Robbins.Chris@epa.gov>
Subject: Revised PFBS Toxicity

Good Afternoon Everyone,

As promised, please find the peer review draft of the PFBS toxicity evaluation and revised charge questions. We anticipate the final report from the peer reviewers before the end of July.

I hope you have a wonderful weekend and holiday!

Thanks again for all your input and engagement throughout this process.

Tina

==========

Tina Bahadori, Sc.D.
Director, National Center for Environmental Assessment (EPA/ORD/NCEA)
National Program Director, Human Health Risk Assessment (EPA/ORD/HHRA)
DC phone: 202-564-7903

From: Bahadori, Tina
Sent: Thursday, June 21, 2018 2:21 PM
To: patricia.m.underwood.civ@mail.mil; maria.vargas@navy.mil; wanda.holmes@navy.mil; freeman.holifield.mil@mail.mil; andrew.rak@noblis.org; andrew.rak2.ctr@mail.mil; mark.s.johnson.civ@mail.mil; jennifer.corack@navy.mil; Anita.K.Meyer@usace.army.mil; james.s.smith454.civ@mail.mil; barry.marcel@us.af.mil; Sandra Howard <Sandra.Howard@HHS.GOV>; Suzanne_Fitzpatrick <Suzanne.Fitzpatrick@fda.hhs.gov>; Jason.Aungst@fda.hhs.gov; Penelope.Rice@fda.hhs.gov; Paul.South@fda.hhs.gov; wic1@cdc.gov; txf5@cdc.gov; pjb7@cdc.gov; Christopher.Weis@nih.gov; miller.aubrey@nih.gov; suzanne.fenton@nih.gov; michael.devito@nih.gov; birnbaumls@niehs.nih.gov; fjh1@cdc.gov; seg3@cdc.gov; eaw0@cdc.gov; iwa6@cdc.gov; oii2@cdc.gov; pxp5@cdc.gov; linda.s.wennerberg@nasa.gov;

James_H_Kim@omb.eop.gov; mfocazio@usgs.gov; Terra.irons@va.gov; michael.j.quinn104.civ@mail.mil
Cc: Albert, Ryan <Albert.Ryan@epa.gov>; Grevatt, Peter <Grevatt.Peter@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Lambert, Jason <Lambert.Jason@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Owens, Beth <Owens.Beth@epa.gov>; Rodan, Bruce <rodan.bruce@epa.gov>; Gillespie, Andrew <Gillespie.Andrew@epa.gov>; Orme-Zavaleta, Jennifer <Orme-Zavaleta.Jennifer@epa.gov>; Burneson, Eric <Burneson.Eric@epa.gov>; Behl, Betsy <Behl.Betsy@epa.gov>; Donohue, Joyce <Donohue.Joyce@epa.gov>; Strong, Jamie <Strong.Jamie@epa.gov>; Mclain, Jennifer <Mclain.Jennifer@epa.gov>; Holsinger, Hannah <Holsinger.Hannah@epa.gov>; Wadlington, Christina <Wadlington.Christina@epa.gov>; Tiago, Joseph <Tiago.Joseph@epa.gov>; Jacobs, Brittany <Jacobs.Brittany@epa.gov>; Miller, Gregory <Miller.Gregory@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Soares, Barbara <soares.barbara@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Babcock, Amy <babcock.amy@epa.gov>
Subject: Please Review -- revised PFBS charge questions

Good Afternoon Everyone,

Thank you for an excellent meeting yesterday. As promised, we are providing revised charge questions **for PFBS**. Hopefully these changes reflect the discussion we had yesterday and address the concerns raised. The edits are redlined into the charge document that Peter had attached to the meeting invite yesterday.

Please take a look and let us know what you think. We plan to finalize these by tomorrow (Friday) 4 PM.

Thanks again for your engagement and support.

Tina
==========
Tina Bahadori, Sc.D.
Director, National Center for Environmental Assessment (EPA/ORD/NCEA)
National Program Director, Human Health Risk Assessment (EPA/ORD/HHRA)

-----Original Appointment-----
From: Grevatt, Peter
Sent: Wednesday, June 13, 2018 12:46 PM
To: Grevatt, Peter; patricia.m.underwood.civ@mail.mil; maria.vargas@navy.mil; wanda.holmes@navy.mil; freeman.holifield.mil@mail.mil; andrew.rak@noblis.org; andrew.rak2.ctr@mail.mil; mark.s.johnson.civ@mail.mil; jennifer.corack@navy.mil; Anita.K.Meyer@usace.army.mil; james.s.smith454.civ@mail.mil; barry.marcel@us.af.mil; Sandra Howard; Suzanne_Fitzpatrick; Jason.Aungst@fda.hhs.gov; Penelope.Rice@fda.hhs.gov; Paul.South@fda.hhs.gov; wic1@cdc.gov; txf5@cdc.gov; pjb7@cdc.gov; Christopher.Weis@nih.gov; miller.aubrey@nih.gov; suzanne.fenton@nih.gov; michael.devito@nih.gov; birnbaumls@niehs.nih.gov; fjh1@cdc.gov; seg3@cdc.gov; eaw0@cdc.gov; iwa6@cdc.gov; oii2@cdc.gov; pxp5@cdc.gov; linda.s.wennerberg@nasa.gov; James_H_Kim@omb.eop.gov; mfocazio@usgs.gov; Terra.irons@va.gov; Mclain, Jennifer; Holsinger, Hannah; Wadlington, Christina; Tiago, Joseph; Burneson, Eric; Behl, Betsy; Strong, Jamie; Jacobs, Brittany; Donohue, Joyce; Miller, Gregory; Harper, Ashley; Drinkard, Andrea; Behrsing, Tracy; Babcock, Amy; Aubee, Catherine; Henry, Tala; Orme-Zavaleta, Jennifer; Gillespie, Andrew; Bahadori, Tina; Jones, Samantha; Lambert, Jason; Lavoie, Emma; Owens, Beth; Moore, Alexa; Champlin, Anna; Rodan, Bruce; Mattas-Curry, Lahne; Raffaele, Kathleen; Gervais, Gregory; Leonard, Paul; Soares, Barbara; Speth, Thomas; Lehman, Rachel; michael.j.quinn104.civ@mail.mil; Birchfield, Norman
Cc: Albert, Ryan; Foster, Stiven; Libelo, Laurence; Cooke, Maryt; Burchette, John; Davis, Todd H.
Subject: PFAS Toxicity Assessment Discussion
When: Wednesday, June 20, 2018 1:00 PM-2:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: DCRoomEast2123/DC-ICC-OW-OGWDW - 202-991-0477 - Conference ID 8315535

Agenda: PFAS Toxicity Development Updates
1) Introduction and general questions re process and reviewers (10 min)
2) GenX chemicals assessment (20 min)
3) PFBS assessment (30 min)
4) Charge questions (30 min)

To: Miller, Gregory[Miller.Gregory@epa.gov]
Cc: Henry, Tala[Henry.Tala@epa.gov]; Strong, Jamie[Strong.Jamie@epa.gov]; Behl, Betsy[Behl.Betsy@epa.gov]
From: Babcock, Amy
Sent: Tue 4/24/2018 11:32:07 PM
Subject: OW DRAFT Tox Assessment for GenX Chemicals_for discussion RAD 04-24-2018 v3.TH_ALB.docx
OW DRAFT Tox Assessment for GenX Chemicals_for discussion RAD 04-24-2018 v3.TH_ALB.docx

Hi Greg,

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Thank again,
Amy

Organizer: Miles, James[miles.james@epa.gov]

Location: **Personal Phone / Ex. 6**

Importance: Normal

Start Time: Wed 9/20/2017 5:30:00 PM (UTC)

End Time: Wed 9/20/2017 6:00:00 PM (UTC)

Required Attendees: Mitchell, Ken; (Fite.Mark@epa.gov); Daryl.Hudson@erg.com; Dan-Tam.Nguyen@erg.com; paul.buellesbach@erg.comAubee, Catherine; Dan-Tam Nguyen; Gorman, John; Paul Buellesbach; Daryl Hudson; Toney, Anthony; Ellis, Tony; Fite, Mark; daw, harry; Mitchell, Ken; Pratt, Stacie; Schulz, Susan; Martinez, Jeffrey; Kate Anderson (Anderson.Kate@epa.gov); DeDora, Caroline; Carol King (King.Carol@epa.gov); Allison, Rose; Bookman, Robert; Doa, Maria; Bean, Mark; Sullivan, Greg; Swan, Russell; Bates, Keith; Henry, Tala; David Star (star.david@epa.gov); Kemker, Carol; Saenz, Diana; Bahk, Benjamin; Davis, Lauren O.; Tucker, Marlene; Freed, Elisabeth; George, Verne; Klevs, Mardi; Denton, Loren; Gordon, Scott; Pollins, Mark; Garvey, Mark; Theis, Joseph

Optional Attendees: Gopal TimsinaAllenbach, Becky; Ramalho, Louis; Day, Christopher; Clark, Jacqueline; Wilson, Jennifer; Niess, Claudia; Lewis, Jennifer; rogers, rick; Mancusi-Ungaro, Philip; Bair, Rita; Janovitz, Sara; Hall, Renea; Bush, William; Coe, Mary; Timsina, Gopal; Speir, Jeffrey; Schwartz, Paul; Shell, Karrie-Jo; Unger, LouAnn; Shoven, Heather; Harris, Kimberly; Field, Stephen; Ireland, Laurie; Spann, Tony; Duchovnay, Andrew; Baptista, Chrisna; Moyer, Adam; Collins, Charlie; Davis, Molly; Poy, Thomas

Updates 9.20.2017.00.docx

Today's Agenda for Gen-X Update Call

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process / Ex. 5

b. Status of SDWA and New PFESA (Nafion) related chemicals

III. Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5

James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A
1201 Constitution Ave., NW
Washington, DC 20004

202.564.5161
miles.james@epa.gov<mailto:sander.matthew@epa.gov>

Message

From: Miles, James [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=6C27D6E7B72E48508EF8AE5768CCAAD3-JMILES]
Sent: 7/12/2018 8:00:53 PM
To: Theis, Joseph [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a559a9bf75f14d13b38275cd3757c40e-Jtheis02]; Speir, Jeffrey [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8ed7cab3deb648f4927aeae165ba2f23-Speir, Jeff]
CC: Collins, Charlie [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=be5e752ac7044e79897af31c50cf6e85-Collins, Ch]; Pollins, Mark [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=591f52a6cc074a2394fb5ddc306c2fd7-Mpollins]; Denton, Loren [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d43f2615e2134c829d2bff835fc1bd3a-LDenton]; King, Carol [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d38c5b906a8f476f81d7bc657a6833a1-DeMarco, Carol]; Bahk, Benjamin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ed08c4e4e97e43eb97ba801b7ef36ed9-Bbahk]; Sullivan, Greg [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=617761bab33d4773b7f976b1ead8b9b5-gsulli02]; Saenz, Diana [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=90ddf616ccc9433aa31f87095d24c374-Saenz, Diana]; Garvey, Mark [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dcb64df923844466acac67c1f19eabe0-Mgarvey]
Subject: RE: Chemours - pre meeting prep for 7/16 AA discussion
Attachments: Chemours Agenda July 16 2018.docx; Chemours GenX TSCA Paper 071218.docx

Hey Joe –

We were thinking we would use the attached short agenda paper to frame the discussion and then have 2 substantive briefing papers for TSCA and Water. The package would also include the Chemours powerpoint(s) and a process flow diagram. The attached WCED paper is under management review.

James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A
1200 Constitution Ave., NW
Washington, DC 20460
202.564.5161
miles.james@epa.gov

From: Theis, Joseph
Sent: Thursday, July 12, 2018 3:58 PM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Miles, James <miles.james@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin

<Bahk.Benjamin@epa.gov>
Subject: RE: Chemours - pre meeting prep for 7/16 AA discussion

Jeff and James,
I was under the impression that there was going to be a shorter joint paper that we would atually brief Susan from. Is that not the case?

Joseph G. Theis
Acting Deputy Director
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. EPA (2243A)
1200 Pennsylvania Ave, NW
Washington, D.C. 20460
(202)564-4053

This email may contain deliberative, attorney-client, attorney work product or otherwise privileged material. Do not release under FOIA without appropriate review. If this email has been received by you in error, you are instructed to delete it from your machine and all storage media whether electronic or hard copy.

From: Speir, Jeffrey
Sent: Thursday, July 12, 2018 3:41 PM
To: Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>
Cc: Miles, James <miles.james@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>
Subject: RE: Chemours - pre meeting prep for 7/16 AA discussion

Recognizing that I just sent you this draft yesterday afternoon—I wanted to check in to see if you have any questions, comments, or concerns with the document on Chemours.

We would like to provide the document (with WCED's paper) to Rosemarie before sending it to the OECA IO by tomorrow's 3:00 pm deadline.

Jeffrey Speir, Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
(202) 564-0872

From: Speir, Jeffrey
Sent: Wednesday, July 11, 2018 3:08 PM
To: King, Carol <King.Carol@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>
Cc: Theis, Joseph <Theis.Joseph@epa.gov>
Subject: RE: Chemours - pre meeting prep for 7/16 AA discussion

Hi, WED:

In response to Loren's request at our meeting on Monday, I have attached a draft paper on Chemours in preparation for our discussion at 4:30. Charlie and I collaborated on the substance and are able to field questions or investigate aspects further.

-Jeff

Jeffrey Speir, Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
(202) 564-0872

-----Original Appointment-----
From: King, Carol
Sent: Tuesday, July 03, 2018 11:10 AM
To: King, Carol; Speir, Jeffrey; Collins, Charlie; Denton, Loren; Pollins, Mark
Cc: Theis, Joseph
Subject: Chemours - pre meeting prep for 7/16 AA discussion
When: Monday, July 09, 2018 11:30 AM-12:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Mark's office

To: Sullivan, Greg[Sullivan.Greg@epa.gov]; King, Carol[King.Carol@epa.gov]; Bahk, Benjamin[Bahk.Benjamin@epa.gov]; Denton, Loren[Denton.Loren@epa.gov]; Pollins, Mark[Pollins.Mark@epa.gov]; Garvey, Mark[Garvey.Mark@epa.gov]; Saenz, Diana[Saenz.Diana@epa.gov]
Cc: Miles, James[miles.james@epa.gov]
From: Speir, Jeffrey
Sent: Mon 1/8/2018 3:04:35 PM
Subject: RE: Chemours Letter Current Comms
2012-01-31 GenX WVDEP Consent Order.pdf

Hi, all:

Deliberative Process / Attorney Client / Ex. 5 / Ex. 7a

Please let me know your edits, when you are able.

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Sullivan, Greg
Sent: Monday, January 08, 2018 9:15 AM
To: King, Carol <King.Carol@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Letter Current Comms

Thanks – We had some additional comments on the TSCA related language. I'm looping James Miles.

From: King, Carol
Sent: Monday, January 08, 2018 9:12 AM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>
Subject: FW: Chemours Letter Current Comms

Deliberative Process / Attorney Client / Ex. 5 / Ex. 7a

From: Senn, John
Sent: Friday, January 05, 2018 5:25 PM
To: Starfield, Lawrence <Starfield.Lawrence@epa.gov>; Traylor, Patrick <traylor.patrick@epa.gov>; Hull, George <Hull.George@epa.gov>; Bodine, Susan <bodine.susan@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; King, Carol <King.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: Fwd: Chemours Letter Current Comms

Here's the current version of the letter that will go to Chemours early next week along with the comms strategy, revised desk statement and internal QAs in case we get press inquiries. WED folks are already reviewing the QA on the order but it looks like the region or OW made a small tweak to that since yesterday.

Lee has reviewed and is supportive of this rollout.

Please let me know if anyone has additional edits to any of the below or wants to connect on this.
John
Sent from my iPhone

Begin forwarded message:

> **From:** "Drinkard, Andrea" <Drinkard.Andrea@epa.gov>
> **Date:** January 5, 2018 at 3:31:59 PM EST
> **To:** "Forsgren, Lee" <Forsgren.Lee@epa.gov>, "Grevatt, Peter" <Grevatt.Peter@epa.gov>, "Grantham, Nancy" <Grantham.Nancy@epa.gov>, "Mclain, Jennifer" <Mclain.Jennifer@epa.gov>
> **Cc:** "schafer, joan" <schafer.joan@epa.gov>, "Wadlington, Christina" <Wadlington.Christina@epa.gov>, "Senn, John" <Senn.John@epa.gov>, "Hull, George" <Hull.George@epa.gov>, "Mattas-Curry, Lahne" <Mattas-Curry.Lahne@epa.gov>, "Klasen, Matthew" <Klasen.Matthew@epa.gov>
> **Subject: Chemours Letter Current Comms**
>
> Hi all—

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Andrea Drinkard
Communications Director
EPA Office of Water
Desk: 202.564.1601

Personal Phone / Ex. 6

To: Garvey, Mark[Garvey.Mark@epa.gov]; Mitchell, Ken[Mitchell.Ken@epa.gov]; Miles, James[miles.james@epa.gov]; Saenz, Diana[Saenz.Diana@epa.gov]; Oif, Leslie[Oif.Leslie@epa.gov]; Vendinello, Lynn[Vendinello.Lynn@epa.gov]; Sullivan, Greg[Sullivan.Greg@epa.gov]; Pollins, Mark[Pollins.Mark@epa.gov]; Denton, Loren[Denton.Loren@epa.gov]; King, Carol[King.Carol@epa.gov]; Bahk, Benjamin[Bahk.Benjamin@epa.gov]; Collins, Charlie[collins.charlie@epa.gov]
From: Speir, Jeffrey[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8ED7CAB3DEB648F4927AEAE165BA2F23-SPEIR, JEFF]
Sent: Thur 12/7/2017 5:42:33 PM (UTC)
Subject: RE: Chemours Briefing Paper 12 07 17 Noon DRAFT
Chemours Briefing Paper 120717 1240pm.docx

The attached version includes the revised Enforcement/Investigatory / Ex. 7(a)

We plan to send this document to our Office Director at 3:00 today. Please let me know if you have any final edits or comments.

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Garvey, Mark
Sent: Thursday, December 07, 2017 12:25 PM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>
Subject: Chemours Briefing Paper 12 07 17 Noon DRAFT

This is the current draft as of noon. I haven't received the Enforcement/Investigatory / Ex. 7(a) yet. I'm not sure of the timeline but I know we need to get this to the our Office Director today. ASAP with any comments. Jeff and I have incorporated comments we've received.
I added on Page 5 and highlighted in yellow the statement

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Theis, Joseph[Theis.Joseph@epa.gov]
Cc: Denton, Loren[Denton.Loren@epa.gov]; Bahk, Benjamin[Bahk.Benjamin@epa.gov]
From: Speir, Jeffrey
Sent: Thur 8/10/2017 8:36:06 PM
Subject: RE: DuPont/Chemours Fayetteville Works NPDES Permit
2011-04-29 Fayetteville Works NPDES Renewal Application.pdf

Hi Joe,

Deliberative Process / Ex. 5

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Theis, Joseph
Sent: Wednesday, August 09, 2017 10:18 AM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>
Subject: FW: DuPont/Chemours Fayetteville Works NPDES Permit

Thanks Jeff, sounds good. I am copying Ben and Loren as well.

Joseph G. Theis
Associate Director
Water Enforcement Division
Office of Enforcement and Compliance Assurance
U.S. EPA (2243A)
1200 Pennsylvania Ave, NW
Washington, D.C. 20460
(202)564-4053

This email may contain deliberative, attorney-client, attorney work product or otherwise privileged material. Do not release under FOIA without appropriate review. If this email has been received by you in error, you are instructed to delete it from your machine and all storage media whether electronic or hard copy.

From: Speir, Jeffrey
Sent: Wednesday, August 09, 2017 10:11 AM
To: Theis, Joseph <Theis.Joseph@epa.gov>
Subject: RE: DuPont/Chemours Fayetteville Works NPDES Permit

I have attached the 2011 renewal application (for the February 6, 2012 permit).

Karrie-Jo Shell in Region 4 is working with a chemist in the Region to assess whether or how GenX is mentioned in the application. She intends to get back to me early next week. I will review the permit application, as well.

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Speir, Jeffrey
Sent: Tuesday, August 08, 2017 5:29 PM
To: Theis, Joseph <Theis.Joseph@epa.gov>
Subject: FW: DuPont/Chemours Fayetteville Works NPDES Permit

Hi Joe,

Please find attached Chemours' recent NPDES Permit application and the currently applicable NPDES permit, per our conversation a few minutes ago.

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

To: Tobias, David[Tobias.David@epa.gov]
From: Brinkerhoff, Chris
Sent: Thur 6/7/2018 5:47:22 PM
Subject: RE: [For revision by Thu, 6/7] ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
DRAFT AGENCY Tox Assessment for GenX Chemicals_Sec 1 and 2 for OPPT 06-4-18 cjb.docx

Sharing the edits

From: Tobias, David
Sent: Thursday, June 07, 2018 1:28 PM
To: Aubee, Catherine <Aubee.Catherine@epa.gov>; Babcock, Amy <babcock.amy@epa.gov>; Benson, Amy <Benson.Amy@epa.gov>; Brinkerhoff, Chris <Brinkerhoff.Chris@epa.gov>; Olson, Bethany <olson.bethany@epa.gov>
Cc: Henry, Tala <Henry.Tala@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>
Subject: RE: [For revision by Thu, 6/7] ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics

Good afternoon

I only made comments in the pchem/fate section. I am sorry that they are late but I hope that some of them can be incorporated.

My comments can be seen in "track changes" and are on pages 17-20.

David A. Tobias
202.564.8534
6334 P - WJC East
Risk Assessment Division (RAD)
Office of Pollution Prevention and Toxics (OPPT)
My office hours : 8:30 am - 5:00 pm

From: Aubee, Catherine
Sent: Monday, June 04, 2018 1:00 PM
To: Babcock, Amy <babcock.amy@epa.gov>; Benson, Amy <Benson.Amy@epa.gov>; Brinkerhoff, Chris <Brinkerhoff.Chris@epa.gov>; Tobias, David <Tobias.David@epa.gov>; Olson, Bethany <olson.bethany@epa.gov>
Cc: Henry, Tala <Henry.Tala@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>
Subject: [For revision by Thu, 6/7] ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
Importance: High

Internal draft, deliberative

Hello all,

Please see attached comments from internal (EPA) peer review.

Please send me any edits by **Thursday, June 7**, so we can collate and reconcile as needed.

David, let me know if you are able to handle comments on p-chem/fate.

Bethany, I believe CCD contributed to the use section. I'm happy to incorporate any edits you might have in response to the comments.

Best,
Catherine

From: Strong, Jamie
Sent: Monday, June 04, 2018 9:41 AM
To: Henry, Tala <Henry.Tala@epa.gov>
Cc: Behl, Betsy <Behl.Betsy@epa.gov>; Jacobs, Brittany <jacobs.brittany@epa.gov>; Miller, Gregory <Miller.Gregory@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>
Subject: FW: ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
Importance: High

Tala,
Attached are comments received from the Agency review on the sections of GenX developed by OPPT. The first document is ORD's consolidated comments (they had a lot and we didn't have time to move over into draft document). The second is the draft document Sections 1-2 with comments from all other program and regions.

No one sent a redline markup of the Appendix B document that was sent out separately. The main thrust of the Appendix B comments was that the content should be better integrated into the main body of the document.

Please provide us with edits by Friday June 8th.

Jamie

Jamie B. Strong | Chief, Human Health Risk Assessment Branch
Health and Ecological Criteria Division | Office of Science and Technology | Office of Water
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW, 4301-T, Washington, DC 20460
☎ Phone: (202) 566-0056 | strong.jamie@epa.gov

To: Kemker, Carol[Kemker.Carol@epa.gov]; George, Verne[George.Verne@epa.gov]; Bookman, Robert[Bookman.Robert@epa.gov]; Toney, Anthony[Toney.Anthony@epa.gov]
Cc: Miles, James[miles.james@epa.gov]
Sent: Mon 6/18/2018 12:46:37 PM
Subject: Preparing to Explain Chemours Inspection to HQ Senior Management -- INTERNAL- Do Not Release
Process diagrams.docx

Attorney Work Product in Preparation for Litigation

Carol, Tony, Robert & Verne,

Attorney Work Product / Attorney-Client / Deliberative Process; Ex. 5 / / Enforcement/Investigatory Ex. 7(a)

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Garvey, Mark[Garvey.Mark@epa.gov]
From: Miles, James
Sent: Mon 1/8/2018 6:50:42 PM
Subject: RE: Jeff's Incorporated WCED's Comments in Chemours Letter Current Comms - Another Question with Comments from WCED

That's fine

From: Garvey, Mark
Sent: Monday, January 08, 2018 1:46 PM
To: Miles, James <miles.james@epa.gov>
Subject: FW: Jeff's Incorporated WCED's Comments in Chemours Letter Current Comms - Another Question with Comments from WCED

James,

I let Jeff know we are OK with his revised version after he incorporated WCED's comments. I don't think we have any additional comments. Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Speir, Jeffrey
Sent: Monday, January 08, 2018 12:17 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: RE: Chemours Letter Current Comms - Another Question with Comments from WCED

Hi Mark,

Thank you for the additions. I have included them (with WED's) in blue, below. The most recent version does not include some of the language that you suggested to strike in the second Q&A. Please let me know if the edit I made addresses your concerns with this issue. Also, I tweaked the sentence about compliance with the TSCA order, considering the prior sentence references Washington Works—please let me know if this makes sense. Have you heard back from OPPT? Will WCED have any additional edits?

Q&As

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Garvey, Mark
Sent: Monday, January 08, 2018 11:53 AM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Letter Current Comms - Another Question with Comments from WCED

Attorney-Client / Deliberative Process / Ex. 5

Attorney-Client / Deliberative Process / Ex. 5

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Monday, January 08, 2018 11:02 AM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Letter Current Comms

Jeff,

James and I discussed your TSCA issue and Attorney-Client / Deliberative Process / Ex. 5
Attorney-Client / Deliberative Process / Ex. 5
Attorney-Client / Deliberative Process / Ex. 5 We'll get back to you.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Speir, Jeffrey
Sent: Monday, January 08, 2018 10:05 AM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Letter Current Comms

Hi, all:

I left a voicemail for John Senn to let him know that we will be sending edits from WED and WCED. Attorney-Client / Deliberative Process / Ex. 5

Attorney-Client / Deliberative Process / Ex. 5

Attorney-Client / Deliberative Process / Ex. 5

Please let me know your edits, when you are able.

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

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To: King, Carol <King.Carol@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Letter Current Comms

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Sent: Monday, January 08, 2018 9:12 AM
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Subject: FW: Chemours Letter Current Comms

My email crossed with John's on Friday. I flagged this for him, but didn't hear back. So the version John sent up around 5:25 pm on 1/5 did not yet include WED's edits for the internal Qs and As, which I had emailed him separately around 5:35 pm. For instance, WED had proposed striking the "discharge" language in the first two sentences in the fourth Q and A.

From: Senn, John
Sent: Friday, January 05, 2018 5:25 PM
To: Starfield, Lawrence <Starfield.Lawrence@epa.gov>; Traylor, Patrick <traylor.patrick@epa.gov>; Hull, George <Hull.George@epa.gov>; Bodine, Susan <bodine.susan@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; King, Carol <King.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: Fwd: Chemours Letter Current Comms

Here's the current version of the letter that will go to Chemours early next week along with the comms strategy, revised desk statement and internal QAs in case we get press inquiries. WED folks are already reviewing the QA on the order but it looks like the region or OW made a small tweak to that since yesterday.

Lee has reviewed and is supportive of this rollout.

Please let me know if anyone has additional edits to any of the below or wants to connect on this.
John
Sent from my iPhone

Begin forwarded message:

From: "Drinkard, Andrea" <Drinkard.Andrea@epa.gov>
Date: January 5, 2018 at 3:31:59 PM EST
To: "Forsgren, Lee" <Forsgren.Lee@epa.gov>, "Grevatt, Peter" <Grevatt.Peter@epa.gov>, "Grantham, Nancy" <Grantham.Nancy@epa.gov>, "Mclain, Jennifer" <Mclain.Jennifer@epa.gov>
Cc: "schafer, joan" <schafer.joan@epa.gov>, "Wadlington, Christina" <Wadlington.Christina@epa.gov>, "Senn, John" <Senn.John@epa.gov>, "Hull, George" <Hull.George@epa.gov>, "Mattas-Curry, Lahne" <Mattas-Curry.Lahne@epa.gov>, "Klasen, Matthew" <Klasen.Matthew@epa.gov>
Subject: Chemours Letter Current Comms

Hi all—

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Andrea Drinkard
Communications Director

EPA Office of Water
Desk: 202.564.1601
Cell: Personal Phone / Ex. 6

To: Garvey, Mark[Garvey.Mark@epa.gov]
From: Miles, James
Sent: Mon 1/8/2018 4:33:29 PM
Subject: FW: Chemours Letter Current Comms

Are you OK with Greg's edits to the below?

From: Sullivan, Greg
Sent: Sunday, January 07, 2018 2:39 PM
To: Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>; Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Senn, John <Senn.John@epa.gov>
Subject: RE: Chemours Letter Current Comms

Thanks – John on Monday, we will get you edits to the last Q&A in red re: the restriction on releases. Also, I started editing the question re: does EPA regulate the chemical to describe TSCA, pasted below. James, can you are Mark take a look at this language on Monday as well?

Deliberative Process / Ex. 5

From: Kelley, Rosemarie
Sent: Friday, January 05, 2018 5:48 PM
To: Miles, James <miles.james@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Subject: FW: Chemours Letter Current Comms

It seems like you should be on this email too.

Rosemarie

From: Senn, John
Sent: Friday, January 05, 2018 5:25 PM
To: Starfield, Lawrence <Starfield.Lawrence@epa.gov>; Traylor, Patrick <traylor.patrick@epa.gov>; Hull, George <Hull.George@epa.gov>; Bodine, Susan <bodine.susan@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; King, Carol <King.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: Fwd: Chemours Letter Current Comms

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Lee has reviewed and is supportive of this rollout.

Please let me know if anyone has additional edits to any of the below or wants to connect on this.
John
Sent from my iPhone

Begin forwarded message:

From: "Drinkard, Andrea" <Drinkard.Andrea@epa.gov>
Date: January 5, 2018 at 3:31:59 PM EST
To: "Forsgren, Lee" <Forsgren.Lee@epa.gov>, "Grevatt, Peter" <Grevatt.Peter@epa.gov>, "Grantham, Nancy" <Grantham.Nancy@epa.gov>, "Mclain, Jennifer" <Mclain.Jennifer@epa.gov>
Cc: "schafer, joan" <schafer.joan@epa.gov>, "Wadlington, Christina" <Wadlington.Christina@epa.gov>, "Senn, John" <Senn.John@epa.gov>, "Hull, George" <Hull.George@epa.gov>, "Mattas-Curry, Lahne" <Mattas-Curry.Lahne@epa.gov>, "Klasen, Matthew" <Klasen.Matthew@epa.gov>
Subject: Chemours Letter Current Comms

Hi all—

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Andrea Drinkard
Communications Director
EPA Office of Water
Desk: 202.564.1601
Cell: Personal Phone / Ex. 6

To: Libelo, Laurence[Libelo.Laurence@epa.gov]; Lindstrom, Andrew[Lindstrom.Andrew@epa.gov]; Garvey, Mark[Garvey.Mark@epa.gov]
From: Strynar, Mark
Sent: Wed 11/29/2017 6:08:34 PM
Subject: RE: Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA
highlighted Chemours_GenX_Brochure_Final_07July2010.pdf

Laurence is right ...almost. The Dupont brochure calls it the "GenX processing aid" and shows the ammonium salt to be perfectly clear.

Mark

From: Libelo, Laurence
Sent: Wednesday, November 29, 2017 9:48 AM
To: Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Cc: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA

Hi Mark,

Deliberative Process / Ex. 5

OK, Getting down off my soapbox – to answer your question -

Deliberative Process / Ex. 5

A couple of other points – We know a lot more than we did in July.

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

From: Lindstrom, Andrew
Sent: Wednesday, November 29, 2017 8:48 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>; Libelo, Laurence <Libelo.Laurence@epa.gov>
Cc: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA

Mark,

Deliberative Process / Ex. 5

Please let me know if you have other questions.

Thank you,

Andy

From: Garvey, Mark
Sent: Wednesday, November 29, 2017 8:43 AM
To: Libelo, Laurence <Libelo.Laurence@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Subject: FW: Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA

Lawrence and Andrew,

In the email below, the water staff from Region 4 says the following -

Deliberative Process / Ex. 5

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Shell, Karrie-Jo

Sent: Wednesday, November 29, 2017 8:27 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; George, Verne <George.Verne@epa.gov>; Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA

Deliberative Process / Ex. 5

Karrie-Jo Robinson-Shell, P.E.
Environmental Engineer
US EPA Region 4
Water Protection Division
61 Forsyth Street
Atlanta, GA 30303
(404) 562-9308

From: Garvey, Mark
Sent: Tuesday, November 28, 2017 5:25 PM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; George, Verne <George.Verne@epa.gov>; Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA

To Region 4 TSCA & Water teams,

I'm attaching a revised version of the briefing paper Jeff Speir sent earlier today. It now includes TSCA and RCRA sections along with a few sentences mentioning the Regions 3 and 2 involvement. After speaking with my Division Director this afternoon, this effort appears to be an extremely heavy lift to get ready by Thursday for my Office Director. While I'm still requesting comments by Thursday at noon, we will be talking with our Office Director tomorrow morning to see if there is any flexibility in the scheduling of the briefing paper. There are a lot of fast moving details here and we want to be accurate with Susan Bodine.
We will also be asking about the level of participation at the Susan Bodine meeting. We anticipate that each Region will be asked to participate. We can discuss this on Thursday afternoon's GenX bi-weekly general discussion that James Miles set up.

Please note that this is not a meeting requesting senior management direction, but rather an informational briefing for Susan Bodine.

Thanks,
Mark

Mark Garvey
EPA Headquarters
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Attorney
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NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Speir, Jeffrey
Sent: Tuesday, November 28, 2017 12:08 PM
To: Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Draft GenX Paper for OECA Briefing

Hello, Region 4 Water Team:

The Director of the Office of Civil Enforcement at Headquarters has requested that we brief OECA leadership on GenX. The briefing will be for Larry Starfield, Patrick Traylor, and Susan Bodine, the Administrator's counsel for enforcement who has expressed interest in this matter. The briefing is scheduled for Monday, December 4 at 2:00 pm. Note: This briefing is not a request for an OECA decision; rather, it is a presentation of the issues and our federal authorities.

We have prepared the attached draft briefing paper. It somewhat resembles a briefing paper you likely saw in August, with more emphasis on background facts and the State's actions, and less emphasis on enforcement "options." My counterpart in our TSCA/RCRA division will send his updates to the relevant Region 4 TSCA/RCRA folks.

Unfortunately, the deadline to send up the briefing paper is tight. Please provide any feedback you may have to me and Mark Garvey (cc'd) by Thursday, November 30 at noon. I apologize about the timing.

Please let me know if you have any questions or if you would like to discuss this further.

-Jeff

Jeffrey Speir
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A modeling assessment of the physicochemical properties and environmental fate of emerging and novel per- and polyfluoroalkyl substances

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HIGHLIGHTS

- COSMOtherm and SPARC are used to estimate physicochemical properties.
- The properties of PFECAs and PFESAs are similar to PFCAs and PFSAs, respectively.
- The OECD Tool is used to estimate the environmental fate.
- Many fluorinated alternatives have similar environmental fate to legacy PFASs.
- Urgently needed experimental studies are highlighted.

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ABSTRACT

Long-chain perfluoroalkyl carboxylic acids (PFCAs) and perfluoroalkane sulfonic acids (PFSAs) are persistent, bioaccumulative, and toxic contaminants that are globally present in the environment, wildlife and humans. Phase-out actions and use restrictions to reduce the environmental release of long-chain PFCAs, PFSAs and their precursors have been taken since 2000. In particular, long-chain poly- and perfluoroalkyl substances (PFASs) are being replaced with shorter-chain homologues or other fluorinated or non-fluorinated alternatives. A key question is: are these alternatives, particularly the structurally similar fluorinated alternatives, less hazardous to humans and the environment than the substances they replace? Several fluorinated alternatives including perfluoroether carboxylic acids (PFECAs) and perfluoroether sulfonic acids (PFESAs) have been recently identified. However, the scarcity of experimental data prevents hazard and risk assessments for these substances. In this study, we use state-of-the-art in silico tools to estimate key properties of these newly identified fluorinated alternatives. [i] COSMOtherm and SPARC are used to estimate physicochemical properties. The US EPA EPISuite software package is used to predict degradation half-lives in air, water and soil. [ii] In combination with estimated chemical properties, a fugacity-based multimedia mass-balance unit-world model – the OECD Overall Persistence (P_{OV}) and Long-Range Transport Potential (LRTP) Screening Tool – is used to assess the likely environmental fate of these alternatives. Even though the fluorinated alternatives contain some structural differences, their physicochemical properties are not significantly different from those of their predecessors. Furthermore, most of the alternatives are estimated to be similarly persistent and mobile in the environment as the long-chain PFASs. The models therefore predict that the fluorinated alternatives will become globally distributed in the environment similar to their predecessors. Although such in silico methods are coupled with uncertainties, this preliminary assessment provides enough cause for concern to warrant experimental work to better determine the properties of these fluorinated alternatives.

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1. Introduction

In the last decade, perfluoroalkyl carboxylic acids (PFCAs) and perfluoroalkane sulfonic acids (PFSAs) were recognized as persistent (Remde and Debus, 1996; Key et al., 1998) and those with "long" perfluoroalkyl chains were shown to be bioaccumulative (Houde et al., 2006) and toxic (Kennedy et al., 2004; Borg et al., 2013). Our definition of "long" chain refers to PFCAs with 7 or more fluorinated carbons (including PFOA, which is designated as bioaccumulative under REACH; ECHA, 2013) and their precursors as well as PFSAs with 6 or more fluorinated carbons alnd their precursors (Buck et al. 2011).

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Long-chain PFCAs and PFSAs are globally present, including in the abiotic environment (Yamashita et al., 2005; Young et al., 2007) and wildlife (Kannan et al., 2002) in remote regions, indicating the long-range transport potential of these substances. Furthermore, humans in industrialized countries contain relatively high levels of long-chain PFCAs and PFSAs in their serum (Kannan et al., 2004; Olsen et al., 2003), suggested to be due to the historical presence of these substances and their precursors in a wide range of consumer products (Vestergren and Cousins, 2009). Due to concern regarding their hazardous properties, there have been a number of actions by industry and regulatory authorities to reduce the environmental release of long-chain PFCAs, PFSAs and their precursors. In the period 2000–2002, 3M phased out its global production of perfluorooctane sulfonic acid (PFOS) and related chemicals derived from perfluorooctane sulfonyl fluoride (POSF, C_8; i.e., POSF-based chemicals) and replaced their use in certain key products with perfluorobutane sulfonyl fluoride (PBSF, C_4)-based chemicals. In 2009, PFOS and related POSF-based chemicals were added to Annex B (restriction of production and use) of the Stockholm Convention on Persistent Organic Pollutants (UNEP, 2009). Similar actions have also taken place for perfluorooctanoic acid (PFOA) and other long-chain PFCA homologues. For example, the US Environmental Protection Agency (US EPA) and eight major global fluoropolymer and fluorotelomer manufacturers have agreed to work toward the elimination of long-chain PFCAs and their precursors from point-source emissions and products by 2015 (US EPA, 2006). In addition, PFOA and its ammonium salt (APFO) as well as C_{11}–C_{14} PFCAs have been listed in the Candidate List of Substances of Very High Concern under the European chemicals regulation, REACH (ECHA, 2013).

A common feature of all the above actions is an on-going industrial transition to replace long-chain PFCAs, PFSAs and their precursors with alternatives, particularly other poly- and perfluoroalkyl substances (PFASs) such as shorter-chain homologues and functionalized perfluoropolyethers (PFPEs) in applications where extremely low surface tension and/or durable oil- and water-repellency is needed (Holt, 2011). Although the identity of fluorinated substances used in industrial processes and consumer products is often claimed as "confidential business information" (CBI) by the manufacturers, a number of fluorinated alternatives used in different industrial branches and consumer products were identified by Wang et al. (2013). A key question is: are these fluorinated alternatives less hazardous for humans and the environment than their predecessors? There have been other historical examples showing the problems associated with removing a chemical from the market and replacing it with other structurally similar chemicals from the same class of substances (Strempel et al., 2012; Goldstein et al., 2013). Wang et al. (2013) reviewed available knowledge on the identified fluorinated alternatives and highlighted the scarcity of information on their production volumes, emissions, (bio) degradability, bioaccumulative potential and (eco)toxicity. Conducting experiments to generate missing data for all these fluorinated alternatives is expensive and time-consuming. However, a preliminary assessment using in silico methods including quantitative structure–property/activity relationships (QSPRs/QSARs) can provide valuable insights and help to prioritize future research needs (Strempel et al., 2012, Gawor and Wania, 2013; Howard and Muir, 2010).

The aim of this work is to provide a preliminary assessment of emerging and novel fluorinated alternatives with state-of-the-art in silico tools. We use the terminology of "emerging" and "novel" that has previously been applied to brominated flame retardants (Bergman et al., 2012). Emerging fluorinated alternatives are defined as alternatives have been recently identified in the environment, wildlife, food or humans (e.g. Adona). Most of the alternatives included in this study are novel alternatives, i.e. those are known to be present in manufacturing processes, materials and products but have not yet been identified in environmental samples, wildlife, food or humans. First, COSMOtherm and SPARC are used to predict physicochemical properties and EPISuite is used to predict degradation half-lives in air, water and soil. COSMOtherm and SPARC were previously used to estimate the physicochemical properties of long-chain PFASs, including partition coefficients (Arp et al., 2006; Wang et al., 2011) and acid dissociation constants (pK_as) (Goss, 2008). The US EPA EPISuite software package is a well-established QSPR/QSAR tool used to estimate physicochemical properties and degradation half-lives in hazard assessments (Strempel et al., 2012; Zarfl et al., 2012). It has, however, been shown to be inaccurate for estimating the physicochemical properties of PFASs (Arp et al., 2006) and is therefore only used here for estimating the environmental degradation half-lives. The structural differences of the fluorinated alternatives and their estimated physicochemical properties are analyzed to provide insights into the impact of structural changes on physicochemical properties. Second, based on the estimated physicochemical properties and degradation half-lives, the environmental fate of the fluorinated alternatives, more specifically the overall persistence (P_{OV}) and long-range transport potential (LRTP), is assessed by using the OECD Overall Persistence and Long-Range Transport Potential Screening Tool (hereafter "the OECD Tool"). The OECD Tool was developed as a "consensus model" combining the essential aspects of nine multimedia fate and transport models (Wegmann et al., 2009). It should be noted that this study focuses on the physicochemical properties and possible environmental fate (POV and LRTP) of the selected fluorinated alternatives. The prediction of bioaccumulation potential (B) and (eco)toxicity (T) is not included in this study because there is a lack of mechanistic understanding about the possible oleo- and proteinophilic bioaccumulation behavior as well as the toxic mode-of-action of these fluorinated alternatives. However, a discussion of possible strategies for assessing B is included in the Discussion section.

2. Methods

2.1. Selected fluorinated alternatives

A total of 16 emerging and novel fluorinated alternatives were investigated, including five perfluoroether carboxylic acids (PFECAs) and two perfluoroether sulfonic acids (PFESAs) identified by Wang et al. (2013) and for which the chemical structures were known (see Table 1). The selection of the fluorinated alternatives for this study was limited by the large amount of unknown fluorinated chemical structures in the products identified by Wang et al. (2013). Furthermore, some fluorinated alternatives (namely "$CF_2{=}CFOCF_2CF(CF_3)CF_2CF_2SO_2F$ (CAS no. 16090-14-5) and $CF_3OCF(CF_3)COF$") were not considered due to their use in closed industrial processes. These substances are likely used as intermediates to produce monomers for certain polymer. they are not expected to be present in significant quantities in the environment because they are chemically bound on the polymers resulting in a limited fraction of them in industrial waste streams (US EPA, 2012). The plausible degradation products of two alternatives were, on the other hand, included in the analysis, since they could possibly be long-lived chemicals and more toxic than their parent compounds, as observed for other contaminants (Farré et al., 2008).

The 16 fluorinated alternatives and 6 degradation products were divided into four groups: 1) fluorinated alternatives replacing PFOA; 2) fluorinated alternatives replacing PFOS; 3) fluorinated alternatives replacing 8:2 fluorotelomer alcohol (8:2 FTOH); and 4) fluorinated alternatives replacing certain POSF- and/or fluorotelomer-based substances.

For practical purposes, each compound was renamed with a specific abbreviation (based on its acronym, commercial name, etc.) as indicated in Table 1 and will be referred to by this abbreviation throughout the paper.

2.2. Estimation of physicochemical properties

For fluorinated alternatives and their predecessors (PFOA, PFOS and 8:2 FTOH), physicochemical properties were predicted using

COSMOtherm and SPARC. COSMOtherm (v. C3.0 release 01.13, COSMOlogic GmbH & Co. KG) is a quantum-chemistry-based model that was developed according to the 'Conductor-like Screening Model for Real Solvents' (COSMO-RS) theory; details about the model and background theory can be found in the review by Klamt (2003). Detailed property estimation work has been described by Wang et al. (2011), who reported results for physicochemical properties of legacy PFASs. In brief, the estimation of physicochemical properties using COSMOtherm follows several steps: 1) COSMOconf (v. 2.1, COSMOlogic GmbH & Co. KG) is used to search for the lowest energy conformer(s) of the compound of interest in the gas phase, which includes geometry optimization on the quantum chemistry level, calculation of the surface charge density of the molecule and cluster analysis; 2) the surface-charge density of the conformer is further converted into the chemical potential of the molecule in solutions of water and octanol as well as in the gas and pure liquid phases based on statistical thermodynamic equations that are built in COSMOtherm (Buggert et al., 2009). The physicochemical properties of each conformer are then estimated from its chemical potential in the given phase(s); 3) the final physicochemical properties of each chemical are the weighted average, based on the Boltzmann distribution, of the properties of individual conformers. The conformers that require higher energy costs for formation have a lower probability of occurrence and thus these conformers have a smaller contribution to the final averaged property than the energetically more favorable conformers. The following properties were predicted by using COSMOtherm: the air–water, octanol–water, and octanol–air partition coefficients (K_{AW}, K_{OW} and K_{OA}), the sub-cooled liquid phase vapor pressure (P_L), and the solubilities in water (S_W) and octanol (S_O). Due to the absence of experimental data, external comparison of estimated properties was not feasible. Internal consistency among estimated properties was controlled by using the "three solubility" approach proposed by Cole and Mackay (2000).

The acid-dissociation constants (pK_as) of acidic fluorinated alternatives (e.g., PFECAs and PFESAs) were predicted using SPARC (October 2011, release w4.6.1691-s4.6.1687). Briefly, SPARC is a linear free energy (LFER)-based model that adjusts the experimental pK_a value of the ionizable moiety in the molecule as a function of the perturbation exerted by the rest of the structure (Hilal et al., 1996). Hilal et al. (1995) used SPARC to estimate the pK_a for 3685 organic compounds (detailed list not provided by the authors) and SPARC has also been used to estimate the pK_a of PFOA and other fluorinated carboxylic acids (Goss, 2008) and in another study C_2–C_9 PFCAs and C_1–C_8 PFSAs (Rayne and Forest, 2009).

2.3. Estimation of degradation half-lives in air ($t_{1/2,A}$), water ($t_{1/2,W}$), and soil ($t_{1/2,S}$)

The US EPA EPISuite (version 4.11) was used to estimate the degradation half-lives in air, water and soil. The degradation half-life in air ($t_{1/2,A}$) was predicted by AOPWIN. AOPWIN considers only reactions with hydroxyl (OH) radicals and does not consider other processes such as direct photolysis. It predicts a second-order rate constant that can be converted to a pseudo first-order rate constant by multiplying the second-order rate constant with the atmospheric OH radical concentration (i.e. 1.5·10^6 molecules/cm^3). The biodegradation half-lives in water and soil ($t_{1/2,W}$ and $t_{1/2,S}$) under aerobic conditions were predicted using BIOWIN3. The BIOWIN3 model is built on estimated scores of the biodegradability of 200 substances for which the molecular structures are divided into fragment descriptors. The model analyzes the occurrence of certain fragments in the molecular structure of a chemical and then uses the corresponding descriptors to estimate the likely biodegradation half-lives with a score system (i.e. 5 = hours; 4 = days; 3 = weeks; 2 = months; 1 = years). BIOWIN3 outputs were converted into half-lives (in hours) with the conversion scheme proposed by Aronson et al. (2006). Degradation half-lives from AOPWIN and BIOWIN3 were estimated for the substances in their neutral form. Experimental half-lives, whenever available, were preferred over EPISuite estimates. For example, the experimental OH radical reaction rate constants of 3:1 FTOH (Bravo et al., 2010) and 5:1 FTOH (Hurley et al., 2004) were used instead of AOPWIN estimates.

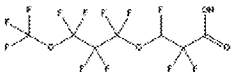
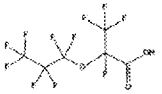
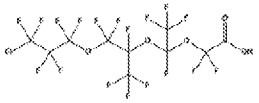
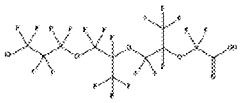
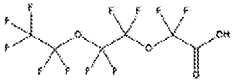
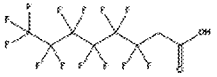
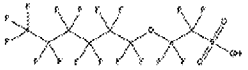
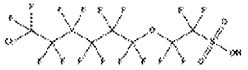
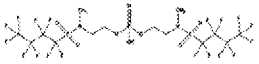
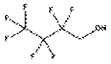
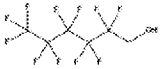
2.4. Structure–property relationships: comparison with PFOS, PFOA and 8:2 FTOH and non-fluorinated analogues

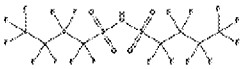
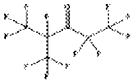
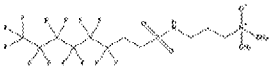
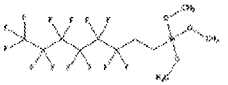
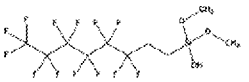
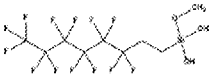
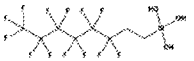
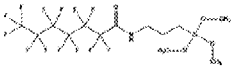
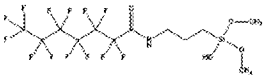
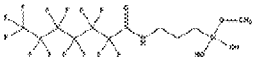
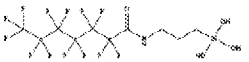
The chemical partition space defined by log K_{OW} and log K_{AW} was used to assess the impact of structural differences, such as the insertion of ether linkages into perfluoroalkyl chains, between PFOS, PFOA and 8:2 FTOH and their respective alternatives (i.e., PFESAs, PFECAs and n:1 FTOHs) on physicochemical properties. Even though PFBSaPA is an alternative to PFOS in metal plating, this compound was not considered at this stage of the analysis since its chemical structure shared few similarities with PFOS. In addition, we conducted comparisons between estimated properties of the PFECAs, PFESAs and PFOS, as a reference for the fully fluorinated carbon chain, and their corresponding hypothetical non-fluorinated analogues (i.e., all fluorine atoms in these fluorinated alternatives were replaced with hydrogen atoms), to gain insight into how (per)fluorination of the molecules influences their physicochemical properties. In order to verify the molecular viability of the non-fluorinated analogues, the experimental information on non-fluorinated analogues of PFECAs and PFESAs was collected; whenever the non-fluorinated compound was not found in the ChemSpider database (i.e., non-fluorinated analogues of PFTECA$_1$, PFTECA$_2$, F-53, F-53B), EPISuite and COSMOtherm were used to assess the likely degradability of the structure and to identify potential reaction centers (i.e., polar moieties). For acidic compounds (such as PFOS, PFOA, PFECAs and PFESAs), the properties of the substances in their neutral form were compared.

2.5. Prediction of environmental fate

The OECD Tool (version 2.2), available for free for download at http://www.oecd.org/env/ehs/risk-assessment/oecdpovandlrtpscreeningtool.htm, was used to assess the environmental fate of the 16 fluorinated alternatives and 6 degradation products. The environmental fate of PFOS, PFOA and 8:2 FTOH was also estimated for comparison. The OECD Tool is a fugacity-based multimedia mass balance unit-world model, containing three bulk compartments representing soil surface layer, seawater surface layer, and the troposphere (Wegmann et al., 2009). Details on the technical background and design of the model are provided by Wegmann et al. (2009). The model input parameters are log K_{AW}, log K_{OW}, $t_{1/2,A}$, $t_{1/2,W}$, and $t_{1/2,S}$. It should be noted that in this study the physicochemical properties were estimated for the neutral form of the substances. Because anionic species have substantially different environmental fate and behavior from neutral species (e.g., anionic species partition much more into aqueous phases rather than into air and/or lipid phases, in comparison to neutral species), it is necessary to account for the extent of dissociation and make adjustments in the modeling. Therefore, we made the following assumptions and adjustment of estimated physicochemical properties: if SPARC predicted the pK_a value to be higher than 6, a substance was assumed to be mainly in the neutral form under assumed environmental pH conditions and the estimated log K_{OW} and log K_{AW} were directly used as input parameters for the model; for substances with a predicted pK_a lower than 6, the estimated log K_{OW} and log K_{AW} were corrected according to the ionized fraction of the chemical. To this end, the air–water and octanol–water distribution ratios, D_{AW} and D_{OW}, as suggested by Wang et al. (2011), were calculated as follows

Table 1
List of the 16 fluorinated alternatives and 6 degradation products chosen in this study, together with their commercial name (whenever available), abbreviation, CAS number, structure and industrial application (whenever available). Strong acids are indicated in bold.

Commercial name	Abbreviation	CAS number	Structure	Industrial application
Fluorinated alternatives replacing PFOA				
Adona	**Adona**	958445-44-8		Fluoropolymer processing aids
GenX	**GenX**	62037-80-3		Fluoropolymer processing aids
Unknown	**PFTECA$_1$** (i.e. perfluoro triether carboxylic acid)	329238-24-6		Fluoropolymer processing aids
Unknown	**PFTECA$_2$** (i.e. perfluoro triether carboxylic acid)			Fluoropolymer processing aids
EEA	**EEA**	908020-52-0		Fluoropolymer processing aids
6:2 FTCA	**6:2 FTCA**	53826-12-3		Fluoropolymer processing aids
Fluorinated alternatives replacing PFOS				
F-53	**F-53**	754925-54-7		Metal plating
F-53B	**F-53B**	73606-19-6		Metal plating
Unknown	**PFBSaPA** (i.e. perfluorobutane sulfonamide w/phosphoric acid)	120945-47-3		Metal plating
Fluorinated alternatives replacing 8:2 FTOH				
RM610	3:1 FTOH	375-01-9		"Building blocks" for substances to be used in surface treatment of textile, leather and carpets
RM620	5:1 FTOH	423-46-1		"Building blocks" for substances to be used in surface treatment of textile, leather and carpets

Fluorinated alternatives replacing certain POSF- and/or fluorotelomer-based substances				
EF-N441S-30	**EF-N**	39847-39-7		Raw material for ionic liquids
Novec 1230	Novec	756-13-8		Fire suppression agent
Forafac 1183	Forafac	80475-32-7		Fluorinated surfactants used in AFFFs
Unknown	PFOTSi (i.e. perfluorooctyltrimethoxysilane)	85857-16-5		Unknown
	PFOTSi-(OH)	Degradation product		
	PFOTSi-$(OH)_2$	Degradation product		
	PFOTSi-$(OH)_3$	Degradation product		
RM720	RM720	154380-34-4		Surface treatment for glasses, natural stones, metals, wood, cellulose, cotton, leather and ceramics
	RM720-(OH)	Degradation product		
	RM720-$(OH)_2$	Degradation product		
	RM720-$(OH)_3$	Degradation product		

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(Schwarzenbach et al., 2005) and used as input parameters:

$$D_{AW\ (or\ OW)} = \frac{1}{1 + 10^{(pH - pK_a)}} * K_{AW\ (or\ OW)}. \quad (1)$$

In Eq. (1), partition coefficients and pK_a values estimated by COSMOtherm and SPARC were used and the environmental pH value was assumed to be 7. The pK_a values used for the calculation of D_{AW} and D_{OW} for PFOA and PFOS were 0.5 (Vierke et al., 2013b) and −3.27 (Brooke et al., 2004), respectively. While it is possible to convert partition coefficients of neutral species to distribution ratios of both charged and neutral species, a similar adjustment cannot be carried out for the degradation half-lives, as there is little empirical information available on the impact of ionization on degradation. Because the anionic species of acidic organic chemicals (Tülp et al., 2009) including PFOS and PFOA (Higgins and Luthy, 2006) sorb to organic matter, the hypothetical organic carbon–water partition coefficient (K_{OC}), which is a well-established parameter to quantify sorption to sediments, soil and suspended/volatile particles, was calculated for each of the anionic fluorinated alternatives and specified in the OECD Tool's code. The details of the calculations are presented below Table A2 of the Supplementary data.

Three emission scenarios were considered, in which emissions occur either to air, water or soil, respectively. For each emission scenario, the OECD Tool calculates 1) the overall persistence (P_{OV}) in days; 2) the characteristic travel distance (CTD) in kilometers (km); and 3) the transfer efficiency (TE) in percent. P_{OV} describes the overall lifetime of a chemical in a multi-compartment environment consisting of air, water, and soil. CTD and TE are both LRTP indicators. CTD represents the distance in km at which the initial chemical concentration at the source point has dropped to 1/e (i.e., 37%) (Bennett et al, 1998). It should be noted that in the CTD calculations water and air compartments are considered to be mobile. TE quantifies the transfer of the chemical from the atmosphere into the soil or water compartment in a target region (MacLeod and Mackay, 2004). The final outputs of the OECD Tool are the highest P_{OV}, CTD and TE from the three emission scenarios and are shown in two graphs with LRTP indicators versus P_{OV}, respectively. A Monte Carlo analysis was carried out for each chemical in order to identify the influence of the variability and uncertainty of each input parameter on the key model outputs.

3. Results

3.1. Physicochemical properties of fluorinated alternatives

Fig. 1A shows estimated log K_{AW} and log K_{OW} for PFOS, PFOA and 8:2 FTOH together with PFECAs, PFESAs, 6:2 FTCA and n:1 FTOHs that are replacing these substances. Estimated values of log K_{AW} and log K_{OW} for the fluorinated alternatives replacing certain POSF- and/or fluorotelomer-based substances (i.e., Forafac, PFBSaPA, EF-N, Novec, PFOTSi, RM720) and the six degradation products are presented in Table A2 of the Supplementary data.

Log K_{OW} and log K_{AW} of the two PFESAs (i.e., F-53 and F-53B) are similar to those of PFOS, differing by less than one log unit. Concerning the fluorinated alternatives to PFOA, these display similar log K_{AW} values (i.e., <2 log unit range) as their common predecessor. Their log K_{OW} values, however, are more variable (i.e., lie within a range of ~4 log units). On the log K_{OW} axis, two distinct groups are differentiated, with EEA, GenX, 6:2 FTCA and Adona on one side and PFTECAs, F-53 and F-53B together with PFOS on the other side. 8:2 FTOH is more hydrophobic (higher log K_{OW}) than its replacements, 3:1 and 5:1 FTOHs. Furthermore, 5:1 FTOH has a higher log K_{AW} and log K_{OW} than 3:1 FTOH. Compared to PFOA and PFOS, their respective fluorinated alternatives presented in Fig. 1A have almost identical polarization surface charge densities, σ (see σ-profiles in Figure A7 of the Supplementary data).

PFECAs, PFESAs and PFOS are more hydrophobic than their hypothetical non-fluorinated analogues, with log K_{OW} and log K_{AW} values that are lower by 3–5 and 2–6 log units, respectively (Fig. 1B). In addition, Adona and EEA, which have one and two ether linkages between perfluoroalkyl chains, display similar log K_{AW} with 0.13 log unit difference, whereas their corresponding non-fluorinated analogues have log K_{AW} values that differ by 2.6 log units.

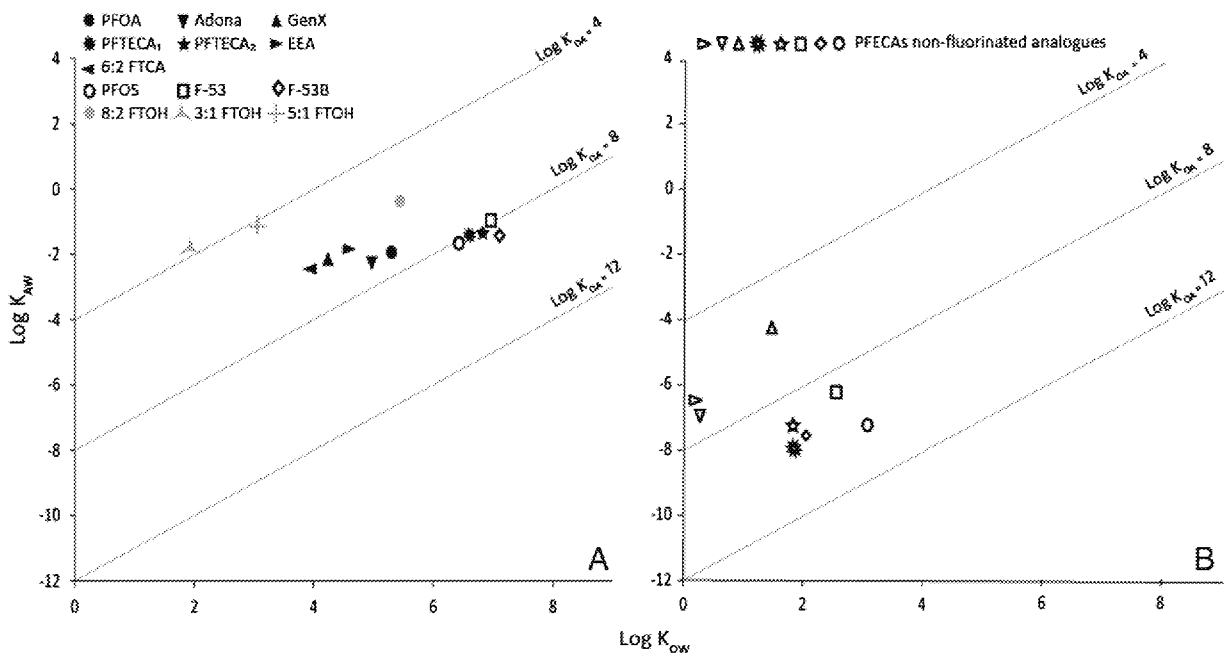

Fig. 1. Chemical space map depicting log K_{AW} versus log K_{OW} for A) fluorinated alternatives to PFOA, PFOS and 8:2 FTOH and B) hypothetical non-fluorinated analogues of PFECAs, PFESAs and PFOS. Diagonal lines correspond to log K_{OA}. The fluorinated alternatives and their corresponding non-fluorinated analogues are indicated by the same symbols.

3.2. Persistence and long-range transport potential

In Fig. 2A, estimated P_{OV} and CTD for PFOS, PFOA and 8:2 FTOH and their fluorinated alternatives are presented. Besides Adona and EEA, which have a CTD and P_{OV} of 592 km and 346 days, respectively, the alternatives to PFOS and PFOA are estimated to be similarly persistent as their predecessors with a common estimated residence time of 1038 days in the whole model environmental system and similar CTDs between 1736 and 1745 km. Furthermore, even though their persistence is less than 300 days, 3:1 and 5:1 FTOHs have CTDs (>40 000 km) more than six times longer than the CTD of 8:2 FTOH. Fig. 2B shows the estimated P_{OV} and CTD of fluorinated alternatives replacing certain POSF- and/or fluorotelomer-based substances. Five of these alternatives are estimated to be less persistent than most of the alternatives as well as the legacy PFASs presented in Fig. 2A, with an average P_{OV} of 326 days for PFOTSi-$(OH)_2$ and RM720, and 131 days for Novec, PFOTSi and PFOTSi-(OH). The averaged CTD of PFOTSi-$(OH)_2$ and RM720 is 800 km, while for PFOTSi and Novec, the CTDs are 1.3 and 2.8 times higher than for PFOS and PFOA, respectively. Forafac, EF-N, PFOTSi-(OH), PFOTSi-$(OH)_3$ and the other degradation products have similar CTDs as PFOA and PFOS. Except for 3:1 FTOH and 5:1 FTOH, which display values exceeding 90% and 100%, respectively, the TE values for the other substances in Fig. 2C and D vary from below 0.001% to 0.87%, depending on the transport media (i.e., air or water) and log K_{OA}. The majority of the fluorinated alternatives have a higher TE compared to the substances they replace.

The contribution of each input parameter to the model outputs is assessed through a Monte Carlo uncertainty analysis (results are provided in Figure A6 of the Supplementary data). Three different cases are observed: [i] for all ionic and for highly hydrophilic (i.e., log $K_{AW} < -8$; log $K_{OA} > 9$) neutral alternatives, the degradation half-life in water is the parameter contributing the most to the output variance of both CTD and P_{OV}, since ions and hydrophilic compounds are mainly distributed in the water phase. Partition coefficients are the most influential input parameters affecting the value of TE. An exception is PFBSaPA, for which CTD and P_{OV} are sensitive to both log K_{AW} and degradation half-life in water while TE is mainly affected by half-life in air. [ii] For (semi-)volatile alternatives (i.e., log $K_{AW} > -3.5$; log $K_{OA} < 7.5$), P_{OV} is sensitive to the degradation half-lives in water, air or soil, while the degradation half-life in air affects the values of CTD and TE. [iii] For alternatives with moderate hydrophilicity (i.e., log $K_{AW} < -3.5$ and log $K_{OA} > 7.5$), P_{OV} and CTD are affected by the degradation half-life in water and TE is sensitive to degradation half-life in air.

4. Discussion

4.1. Influence of structural variability on physicochemical properties

This study provides a preliminary assessment of emerging and novel fluorinated alternatives that replace long-chain perfluoroalkyl acids and their precursors. Even though PFECAs and PFESAs, which are alternatives to PFOA and PFOS, respectively, contain some structural differences such as ether linkage(s) between perfluorinated carbon chains and replacement of fluorine atom with chlorine atom at the end of perfluoroether chain, their physicochemical properties are not significantly changed compared to those of the predecessors. Among PFECAs, the differences in physicochemical properties can likely be explained by different molecular sizes (i.e., PFTECAs versus EEA, Adona and GenX, which have similar σ-profiles but different molecular sizes). Also, while the insertion of ether linkage(s) does not significantly affect the electron withdrawing effects of the perfluorinated carbon chain on the acidic functional group at the other end of the carbon chain, the presence of a methyl

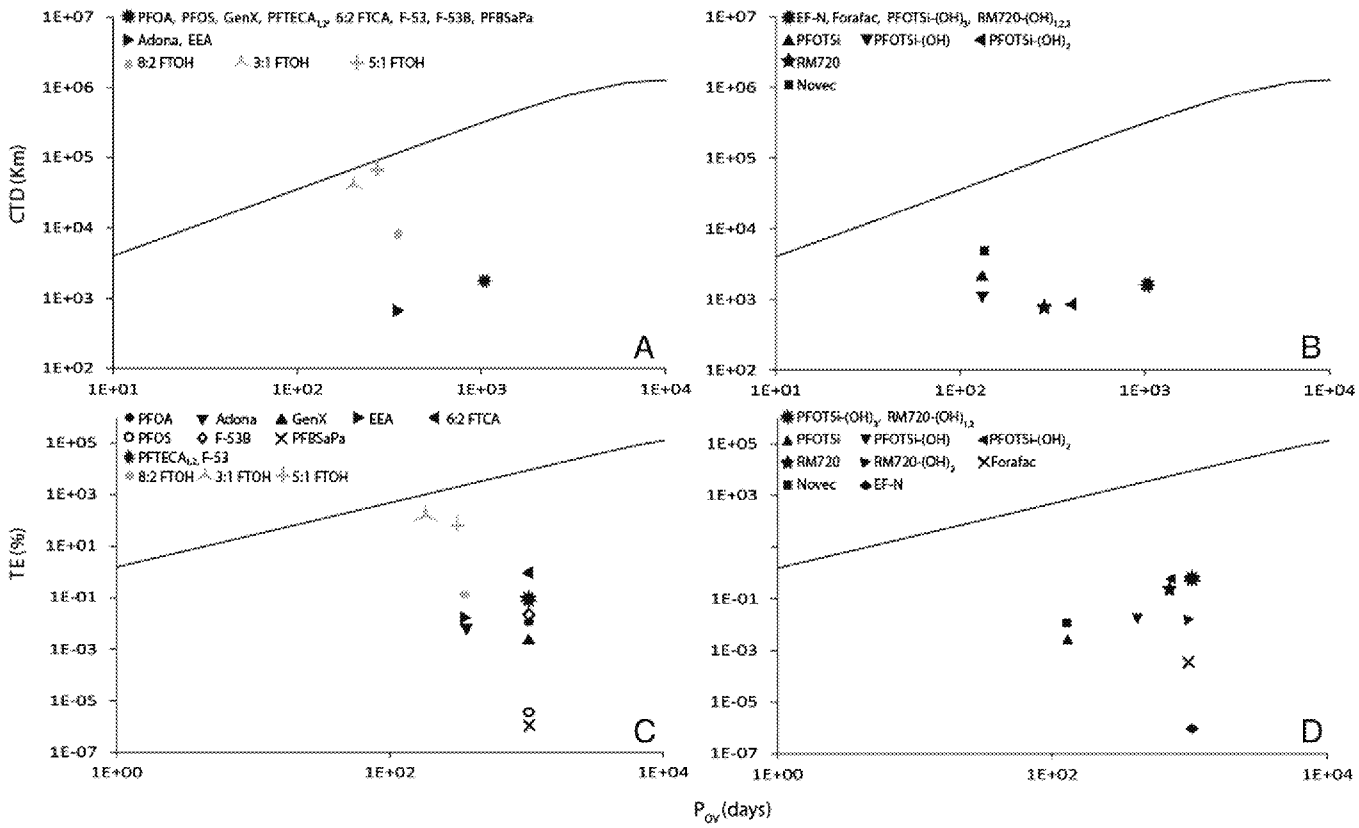

Fig. 2. LRTP indicators – characteristic travel distance (CTD) in km and transfer efficiency (TE) in % – as a function of overall persistence (P_{OV}) in days for fluorinated alternatives to PFOA, PFOS and 8:2 FTOHs (A and C, respectively) and fluorinated alternatives replacing certain POSF- and/or fluorotelomer-based substances (B and D, respectively). The black line represents the maximum CTD or TE for a given P_{OV}.

moiety separating the acid group from the perfluorinated carbon chain (i.e., in the case of 6:2 FTCA) or a partially fluorinated carbon (i.e., Adona) enhances the polarity of the carboxylic group, as depicted in the σ-profiles (see Figure A7 of the Supplementary data). Furthermore, while the substitution of rigid $-CF_2-$ groups with ether groups decreases the molecular size of PFECAs compared to the compounds they replace for a similar chain length, the addition of a chlorine atom increases the molecular size (see Adona, EEA and PFOA for ether and F-53 and F-53B for chlorine in the Supplementary data, Table A2). A smaller molecular size requires less energy to create a cavity among strongly-bonded water molecules. For example, Adona and GenX, which have a similar polarity as PFOA, but a smaller molecular size than PFOA (see σ-profiles in Figure A7 of the Supplementary data) display a slightly more hydrophilic behavior than PFOA. On the contrary, due to a higher chemical potential in water caused by the higher energy costs of cavity formation, larger molecules such as $PFTECA_1$ and $PFTECA_2$ have a higher K_{AW} than PFOA. The numerous factors involved in controlling K_{OW} make it difficult to accurately assess the thermodynamic origins behind this partition process, which considers the costs of cavity formation of the solute and solute–solvent interactions in both water and octanol phases. Unlike in air, the solute can have Van-der-Waals and H-bond interactions with octanol, as it is, to a lesser extent than water, a bipolar solvent.

Replacing hydrogen with fluorine clearly homogenizes the structural variability among different molecules by delocalizing the polarity of the acidic functional group (see σ-profiles, Figure A7 in the Supplementary data). Unlike hydrogen, the strongly electronegative fluorine atoms minimize the global polarity of the molecule by pulling the electrons of partially charged poles toward the fluorinated carbon chain. As a consequence, the presence of ether-linkage(s) and chlorine atom in the molecule increases the polarity of the non-fluorinated analogues more strongly than for the PFECAs and PFESAs. In addition, all conformers of the non-fluorinated analogues contain intramolecular H-bond interactions, whereas no intramolecular H-bonding is observed for conformers of PFECAs and PFESAs. Intramolecular H-bonding competes with intermolecular H-bond interaction resulting in a decrease of polarity of the compound and increase of its chemical potential within polar solvents (Wang et al., 2011). A lower K_{AW} and K_{OW} would therefore be observed without such internal H-bonds. The rigidity of the skeletal structure of PFECAs and PFESAs, which impedes intramolecular interaction, is induced by the presence of fluorine atoms. In addition, the molecular volume of PFECAs and PFESAs is 30% larger than that of the non-fluorinated analogues (see Table A2 in the Supplementary data) and size variability among PFECAs and PFESAs is higher (i.e., 240 Å for PFECAs and PFESAs versus 150 Å for non-fluorinated analogues). Together, these factors can likely explain the higher variability of K_{AW}, respectively, among the non-fluorinated analogues than the PFECAs, PFESAs and their predecessors.

4.2. Assessment of the environmental fate of alternatives

Both P_{OV} and LRTP reflect the overall fate and behavior of the chemical in the environment that results from the combination of degradation processes in different media, intermediate exchange and thermodynamic force-driven phase partitioning. According to our study, the P_{OV} and LRTP of the fluorinated alternatives to PFOA and PFOS are similar to those of their predecessors. Moreover, some of the fluorinated alternatives replacing certain POSF- and/or fluorotelomer-based substances are as persistent and mobile as PFOS and PFOA. It is, therefore, likely that these alternatives can be globally distributed in the environment and reach remote regions far from the primary emission sources, similarly to the legacy PFASs (MacDonald et al., 2000; Wania, 2007; Stock et al., 2007). The 16 fluorinated alternatives and 6 degradation products presented in this study can likely be considered as very persistent under the EU REACH guidelines, since their estimated degradation half-lives in water and soil are >60 days and >180 days, respectively (ECHA, 2012). In addition, the extremely persistent perfluorinated fractions (the C–F bond is the strongest bond in chemistry; Krafft, 2001) may well be the ultimate degradation products of the fluorinated alternatives and accumulate in the environment. Transfer from the atmosphere to the Earth's surface, depicted by TE, is estimated to be more efficient for $PFTECA_1$, $PFTECA_2$, 6:2 FTCA, F-53, F-53B, 3:1 FTOH and 5:1 FTOH compared to the compounds they replace and also for most of the fluorinated alternatives replacing certain POSF- and/or fluorotelomer-based substances. However, although TE estimates are higher for these alternatives than for PFOS and PFOA, the absolute values are still low and do not necessarily imply enhanced atmospheric transport. Hydrophilic alternatives display low TE and will mostly reach remote regions via ocean currents (Zarfl et al., 2012) rather than by atmospheric transport. Furthermore, a high TE value (≥100%) indicates that the compound (e.g., alternatives to 8:2 FTOH) cycles several times between soil and air due to its relatively long degradation half-life in air, high vapor pressure and low hydrophobicity (Wegmann et al., 2009).

4.3. Assessment of bioaccumulation potential

One well-established assessment of the bioaccumulative potential of chemicals is by means of K_{OW} as an indicator of the ability of a neutral compound to partition from water into lipid-rich tissues within an organism. According to this screening criterion that has been adopted by the REACH guidelines (ECHA, 2012), some of the alternatives such as Novec and PFOTSi are likely bioaccumulative, since their estimated log K_{OW} is above 4.5. Furthermore, neutral alternatives with intermediary log K_{OW} and high log K_{OA} (>5) may have the tendency to biomagnify in air-breathing animals (Kelly et al. 2007). Recently, the membrane–water partition coefficient (K_{lipw}) has been proposed to be a more accurate descriptor of bioaccumulation than K_{OW} for conventional organic substances (Gobas et al., 1998), more specifically for H-bond donor compounds and undissociated acids (Endo et al., 2011). A first approximation of K_{lipw} using the simple regression equation proposed in Endo et al. (2011) shows that the difference between K_{lipw} and K_{OW} for the neutral alternatives and the protonated species of the acidic alternatives is not significant (<0.2 log units) (see Table A2 in the Supplementary data). It should be noted that for highly acidic PFCAs and PFSAs, the ionic species is likely predominant except at very low pH values (<2) (Vierke et al., 2013a). The ionic state of PFAAs prevents them from accumulating in adipose tissues and induces rather a proteinophilic behavior, especially with plasma albumin (Jones et al., 2003, Chen and Guo, 2009; Hebert and MacManus-Spencer, 2010). As a result of the structural similarities to PFCAs and PFASs, it is possible that many PFECAs and PFESAs might also have high affinity to proteins. Therefore, assessing the bioaccumulation of these acidic fluorinated alternatives with a $pK_a < 6$ (Conder et al., 2008) according to the regulatory criteria that are solely based on K_{OW} or K_{lipw} (i.e., chemical partitions into adipose tissues) could possibly result in significant underestimation. Therefore, in order to assess the bioaccumulation potential of these acidic fluorinated alternatives, much of the empirical work to understand the protein-binding mechanisms and kinetics of PFAAs and their alternatives is still needed (Ng and Hungerbuhler, 2013).

4.4. Evaluation and uncertainties

For a preliminary assessment of the environmental fate of fluorinated alternatives (on a global scale), the OECD Tool is likely sufficient. However, the accuracy of estimated results depends strongly on 1) the consistency and accuracy of input parameters and 2) the environmental processes considered in the model.

4.4.1. Uncertainties in the input parameter estimation

For physicochemical properties, the applicability of COSMOtherm for PFASs in their neutral form has been demonstrated in two studies

(Wang et al., 2011; Arp et al., 2006), whereas the applicability of HENRYWIN, KOWWIN and MPBPWIN in the EPISuite package, which predict K_{AW}, K_{OW} and P_L, respectively, is questionable for PFASs, given that they performed poorly for legacy PFASs as shown in a previous study (Arp et al., 2006). SPARC is a well-established tool that has been extensively used by regulators and scientists to predict the pK_a of chemicals (US EPA, 2003). However, the pK_as of fluorinated alternatives are likely underestimated by SPARC. As shown in the case of GenX, its experimental pK_a of 3.8 (ECHA, 2013) is much higher than the estimated one (−0.06). There are large uncertainties regarding the pK_as of the fluorinated alternatives, which was also true for the PFCAs (Goss, 2008) due to difficulties in measuring pK_a for highly fluorinated substances. For some acidic alternatives, the value of pK_a used in calculations of P_{OV} and LRTP can have a large impact on the results of CTD and TE as shown in Table A8 of the Supplementary data. Reducing the uncertainty in pK_as of fluorinated alternatives that have pK_a values in the environmental pH range is therefore a research priority.

For degradation half-lives, the EPISuite models used, AOPWIN and BIOWIN, apply QSPR methods (Kwok and Atkinson, 1995; Boethling et al., 1994). Evaluating the predictive power of these QSPRs for fluorinated compounds is limited by the scarcity of empirical values. Some studies already corroborate the accuracy of AOPWIN predictions when it comes to reaction of organic chemicals with OH radicals in the atmosphere (Güsten et al., 1995; Sabljic and Peijnenburg, 2001). Measured second-order rate constants for atmospheric OH radical-mediated degradation are available for three fluorinated alternatives and four legacy PFASs, allowing a limited evaluation of AOPWIN (see Table A4 of the Supplementary data). Even though its training and test sets contain several fluorinated substances, AOPWIN has a tendency to overpredict second-order rate constants. For example, the predicted rate constant of N-ethyl perfluorobutane sulfonamide (EtFBSA) is 24 times higher than the experimental one (Martin et al., 2006). In addition, AOPWIN slightly overpredicts the second-order rate constants by less than a factor of 2 for 3:1 FTOH (Bravo et al., 2010) and 5:1 FTOH (Hurley et al., 2004), by a factor of 3 for N-methyl perfluorobutane sulfonamidoethanol (MeFBSE) (D'Eon et al., 2006) and by a factor of 4 for 8:2 FTOH (Ellis et al., 2003) and PFOA (Hurley et al., 2004). As a consequence, the fluorinated alternatives presented in this work are likely to be even more persistent in air (and have greater CTD) than shown in Fig. 2. In addition, it is noted that AOPWIN, which only encompasses reaction with OH radicals (i.e., indirect photolysis), recognizes when a molecule cannot undergo indirect photolysis. For instance, the half-life of Novec could not be predicted, since this molecule is degraded through direct photolysis only (Jackson et al., 2011, Taniguchi et al., 2003).

Several studies evaluated the accuracy of the BIOWIN program for organic compounds. While it is an effective tool for binary classification of chemicals (i.e., readily biodegradable or not), BIOWIN has limited, quantitative predictive power (Gouin et al., 2004, Aronson et al., 2006, Kühne et al., 2007, Lim and Fox, 2012). Due to the lack of experimental data on ultimate microbial degradation of fluorinated alternatives, assessing the accuracy of BIOWIN3 estimated for these compounds is currently not possible. Nevertheless, experimental primary biodegradation half-lives of several fluorotelomer-based substances (Liu and Mejia Avendaño, 2013) allow an assessment of BIOWIN4, which is an expert survey module based on the same estimation method as BIOWIN3 but designated for primary rather than ultimate degradation. Assessing BIOWIN4 can thus provide insight into the predictive power of BIOWIN3. BIOWIN4 underestimates the primary degradation half-life of 6:2 fluorotelomer sulfonic acid (6:2 FTSA) by a factor of more than 2.5 and overestimates the primary degradation half-life of 8:2 FTOH into PFOA by up to 17 times. The poor predictive power of BIOWIN 4 indicates that the estimations of BIOWIN3 are also inaccurate. As a consequence, the predictive power of BIOWIN3 for PFASs is expected to be limited.

4.4.2. Environmental fate model and output parameters

The Monte Carlo analysis revealed that the degradation half-lives in water and air are the major contributors to the uncertainty of P_{OV} and CTD. Both estimated input parameters also depend on the environmental processes considered in the OECD Tool's calculations. Some possibly significant processes that may influence the P_{OV} and LRTP of fluorinated alternatives are not represented in the OECD Tool. Among them is the possible transfer of fluorinated alternatives from the seawater surface to the atmosphere via marine aerosol generation, due to their surfactant-like properties. This phenomenon is already rather well documented for PFO/PFOA (Webster and Ellis, 2010, Reth et al., 2011, McMurdo et al., 2008) as well as for other long-chain PFCAs and PFSAs (Reth et al., 2011). Briefly, the strong surfactant-like properties of long-chain PFCAs and PFSAs cause them to accumulate in the surface microlayer of the ocean and thus also in the marine aerosols formed from the microlayer of ocean surface water caused by the waves. The pH of marine aerosols is between 3.7 and 5.4 (Pszenny et al., 2004) on average. Thus, if a fluorinated alternative has a pK_a in this pH range, a large fraction of protonated form of the substance may well be present in the marine aerosols. In this case, if the protonated fluorinated alternatives have a high vapor pressure, a significant amount of protonated species may volatilize from the marine aerosol into the atmosphere and thus be transported long distances. Since such environmental processes are not included in the OECD Tool, the CTD outputs might be underestimated for some of the fluorinated alternatives.

5. Outlook

To date, the absence of experimental data on degradation half-lives and physicochemical properties is a major drawback for carrying out hazard and risk assessments of emerging chemicals such as fluorinated alternatives. At this stage, the use of in silico methods remains the only time- and resource-saving tool for the identification of potential hazardous chemicals. Despite the inherent uncertainties, our study provides qualitative evidence that most of the alternatives do not differ significantly from PFOA, PFOS and their precursors regarding the physicochemical properties and likely environmental fate. These alternatives are GenX, $PFTECA_1$, $PFTECA_2$, 6:2 FTCA (alternatives to PFOA) F-53, F-53B, PFBSaPa (alternatives to PFOS), 5:1, 3:1 FTOHs (alternatives to 8:2 FTOH), Forafac, EF-N, Novec, the degradation products of RM720, PFOTSi and its degradation products (alternatives to certain POSF- and/or fluorotelomer-based substances) and further investigations should focus on them. Furthermore, improvement of the data quality and information on production volumes and environmental emission estimates are required for further, more quantitative risk assessment. The experiments that are urgently needed to improve the hazard assessment of the aforelisted fluorinated alternatives and to determine if they are safe for humans and biota are: 1) (bio)degradation experiments in relevant environmental media for individual substances; 2) pK_a measurements of the acidic fluorinated alternatives, in particular PFECAs and PFESAs; 3) bioaccumulation experiments, including protein-binding experiments for the acidic fluorinated alternatives and K_{OW} experiments for the neutral ones; and 4) toxicity tests to identify their mode-of-action and toxicity, which can be further used to develop QSAR models that can be reliably used to predict the toxicity of PFASs. A summary table showing a comparison of fluorinated alternatives to legacy PFASs and highlighting experimental priorities for each fluorinated alternatives is available in Table A9 of the Supplementary data.

Acknowledgments

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Appendix A. Supplementary data

Supplementary data to this article can be found online at http://dx.doi.org/10.1016/j.scitotenv.2014.10.062.

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Sent: Thur 12/7/2017 6:09:38 PM (UTC)
Subject: FW: Chemours Briefing Paper 12 07 17 Noon DRAFT
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Folks....this is the draft final version. If you have any comments please send them to Mark Garvey asap. APTMD folks, please send your comments to me and I'll consolidate them to help lessen Mark's email traffic.

Kenneth L. Mitchell, Ph.D. |Special Assistant to the Director|
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To: Garvey, Mark <Garvey.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>
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If it isn't too late, I made a slight change to the Enforcement/Investigatory / Ex. 7(a)

Lynn Vendinello
Deputy Director
Chemical Control Division
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202-566-0514

From: Garvey, Mark
Sent: Thursday, December 07, 2017 12:25 PM
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Subject: Chemours Briefing Paper 12 07 17 Noon DRAFT

This is the current draft as of noon. I haven't received the Enforcement/Investigatory / Ex. 7(a) yet. I'm not sure of the timeline but I know we need to get this to the our Office Director today. ASAP with any comments. Jeff and I have incorporated comments we've received.
I added on Page 5 and highlighted in yellow the statement

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5

Thanks,
Mark

Mark Garvey
EPA Headquarters
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NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Werner, Jacqueline[Werner.Jacqueline@epa.gov]
Cc: Garvey, Mark[Garvey.Mark@epa.gov]; Ellis, Tony[Ellis.Tony@epa.gov]
From: Miles, James
Sent: Mon 7/9/2018 4:34:53 PM
Subject: RE: Chemours pre-brief

Deliberative Process / Ex. 5

Are you TSCA CBI cleared? If not, Tony can help you get cleared in advance of Monday's meeting.

Deliberative Process / Ex. 5

From: Werner, Jacqueline
Sent: Monday, July 09, 2018 12:15 PM
To: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours pre-brief

James – do you have a briefing paper on this case that I can read? Perhaps what you gave to Rosemarie back in June? Or if you can give me the name of the lead attorney here in WCED I can reach out to him/her directly. Whatever is easiest.

Thanks,
jj

Jacqueline Robles Werner
Associate Director
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Deliberative Process / Ex. 5

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Subject: RE: Chemours pre-brief

11 to 12 on Wednesday works well for me. I'm on in the office Wedneday.

Mark Garvey

EPA Headquarters
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Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Sullivan, Greg
Sent: Monday, July 09, 2018 11:31 AM
To: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>; Miles, James <miles.james@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>
Subject: Chemours pre-brief

Deliberative Process / Ex. 5 / Ex. 7a

Gregory Sullivan, Director
Waste and Chemical Enforcement Division
U.S. Environmental Protection Agency, OECA, OCE
1200 Pennsylvania Ave, NW (MC2249A)
Washington, DC 20460
202 564-1298

This email is confidential and may contain legally privileged information. If you are not the intended recipient, please delete it immediately, do not copy, and notify the sender. Thank you.

Help eliminate environmental violations - report tips and complaints at http://www.epa.gov/compliance/complaints/index.html

Message

From: Garvey, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DCB64DF923844466ACAC67C1F19EABE0-MGARVEY]
Sent: 6/21/2018 6:35:07 PM
To: Ellis, Tony [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b1de90c0e3a844b194c43a5e276503f6-Tellis02]; Miles, James [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6c27d6e7b72e48508ef8ae5768ccaad3-JMiles]
Subject: Chemours GenX TSCA Inspection Briefing Paper 062118 Revised
Attachments: Chemours GenX TSCA Inspection Briefing Paper 062118 Revised.docx

For Review in the next 15 miinutes

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF RESEARCH AND DEVELOPMENT
NATIONAL EXPOSURE RESEARCH LABORATORY
RESEARCH TRIANGLE PARK, NC 27711

August 21,2017

MEMORANDUM

SUBJECT: Laboratory PFAS Results for NC DEQ Cape Fear Watershed Sampling: Week 6 & 7 GenX Analysis

FROM: Timothy J. Buckley, Director
Exposure Methods and Measurements Division

THRU: Jennifer Orme-Zavaleta, Director
National Exposure Research Laboratory

TO: Linda Culpepper, Deputy Director
Division of Water Resources
North Carolina Department of Environmental Quality

Enclosed please find our third report of PFAS concentrations in Cape Fear River water samples collected under the direction of NC DEQ. This report includes results for GenX from weeks 6 & 7 sampling.

We look forward to meeting with you in person at our laboratory in Research Triangle Park to go over these results and answer any questions that you might have. When we meet in person, we are also planning to provide you with preliminary findings from our non-targeted analysis which require a bit more explanation.

Thank you for inviting us to be a part of this effort that addresses a very important public health concern in North Carolina. These results represent the effort of many within our lab but I would especially like to acknowledge Drs. Mark Strynar, Andy Lindstrom, James McCord, and Seth Newton in conducting the laboratory analyses, Dr. Myriam Medina-Vera who provided invaluable support and coordination, and Ms. Sania Tong-Argao who supported and oversaw quality assurance.

If you have any questions or concerns, do not hesitate to contact me at (919) 541-2454 or email buckley.timothy@epa.gov. I look forward to our continued work together.

Enclosure

CC: Becky B. Allenbach, USEPA Region 4
Jeff Morris, USEPA OPPT
Betsy Behl, USEPA, OW
Peter Grevatt, USEPA, OW
Kathleen Raffaele, USEPA, OLEM

Executive Summary

The week 6 & 7 GenX results were received by our lab on July 28, 2017 for week 6, and August 1, and 4, 2017 for week 7, respectively. Results show that GenX concentrations throughout the river basin continue their decline starting with the Chemours outfall (week 7 maximum of 67.9 ng/L) and extending downstream to finished drinking water (maximum at Pender Co. finished water week 7 of 43.4 ng/L). Our QA/QC samples for these results are within expected tolerances (i.e. undetected in blanks and spiked samples within 20% of expected concentrations) with one exception: a high-level spike (200 ng/L) measured at 149 ng/L in week 6 which was outside our ±20 percent range. The GenX results are provided in Attachment A.

ED_002003G_00048694-00002

Attachment A: Concentration of GenX Measured in Cape Fear Watershed Samples

Week	Location / Sample Identifier	Conc. (ng/L)	Flag
6	DWR #1- PO Hoffer WTP Raw Water	<10	1
6	DWR #2 - Bladen Bluffs Raw water (avg. 2 reps)	30.4	
6	DWR #3 - Bladen Bluffs Finished water	34.2	
6	DWR #4 - Smithfield Field Well	<10	1
6	NCDEQ 1 - LCFWSA Raw	35.1	
6	NCDEQ 2 - Sweeney Treated	69.5	
6	NCDEQ 3 - ASR Well	53.6	
6	NCDEQ 4 - WB Well 11	19.2	
6	NCDEQ 5 - IP-Raw	36.3	
6	NCDEQ 6 - IP-Finished	22.2	
6	NCDEQ 7 - NW Brunswick WTP - Finished	31.2	
6	NCDEQ 8 - Pender 421 WTP Finished	65.4	
6	NCDEQ 9 - WB Well 6	<10	1
6	NCDEQ 10 - CB Well 8	<10	1
6	NCDEQ 11 - CB Well 13	<10	1
6	Chemours Outfall 002 7-24-17	102	
6	Chemours Outfall 002 7-25-17 (avg. 2 reps)	74.6	
6	Chemours Outfall 002 7-26-17	71.3	
6	Chemours Outfall 002 7-27-17	77.1	
6	Chemours Outfall 002 7-28-17	63.4	
7	(2) Sweeney WTP finished	38.3	
7	(6) IP WTP Finished	12.7	
7	(7) NW Brunswick Finished	21.6	
7	(8) Pender 421 WTP Finished	39.2	
7	Pender Co. Finished water 7-31-17	43.4	
7	Chemours outfall 002 7-31-17	67.9	
7	Bladen Bluffs WTP Finished	36.2	
7	Chemours outfall 002 8-1-17	35.1	
7	Chemours outfall 002 8-2-17	41.9	
7	Chemours outfall 002 8-3-17	61.8	
7	Chemours outfall 002 8-4-17	44.0	
Flag			
1	Below Limit of Quantitation		

ED_002003G_00048694-00003

To: Raack, Pete[Raack.Pete@epa.gov]; Miles, James[miles.james@epa.gov]; Garvey, Mark[Garvey.Mark@epa.gov]
From: Speir, Jeffrey[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8ED7CAB3DEB648F4927AEAE165BA2F23-SPEIR, JEFF]
Sent: Wed 8/16/2017 8:58:46 PM (UTC)
Subject: RE: Chemours GenX Options Paper Enforcement/Investigatory / Ex. 7(a)
Chemours GenX Options Paper 081617 Enforcement/Investigatory / Ex. 7(a) clean.docx

I added revised Enforcement/Investigatory / Ex. 7(a) to the attached draft, as well as the Enforcement/Investigatory / Ex. 7(a)

Acting WED management is ok for the Enforcement/Investigatory / Ex. 7(a) to go to Region 4 and OW. However, they want to emphasize that this is a working draft, subject to further analysis and revision.

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Raack, Pete
Sent: Wednesday, August 16, 2017 4:23 PM
To: Miles, James <miles.james@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: RE: Chemours GenX Options Paper Enforcement/Investigatory / Ex. 7(a)

Here's the Enforcement/Investigatory / Ex. 7(a) Was having trouble deciding on what level of detail. Let me know if you have any comments/edits. You may need to change formatting to match the rest of the document.

From: Miles, James
Sent: Wednesday, August 16, 2017 12:32 PM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Raack, Pete <Raack.Pete@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: RE: Chemours GenX Options Paper Enforcement/Investigatory / Ex. 7(a)

Sounds good

From: Speir, Jeffrey
Sent: Wednesday, August 16, 2017 12:28 PM
To: Miles, James <miles.james@epa.gov>; Raack, Pete <Raack.Pete@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: RE: Chemours GenX Options Paper Enforcement/Investigatory / Ex. 7(a)

WED management provided extensive follow-up questions on the Enforcement/Investigatory / Ex. 7(a) am working on revising the draft now.

When we distribute to Region 4 and OCSPP, we should probably also include OW. Deborah Nagle (Water Permits Division (CWA)) and Anita Thompkins (Drinking Water Protection Division (SDWA)) are likely the proper recipients, if the document is going to Division Directors.

Jeffrey Speir
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U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Miles, James
Sent: Wednesday, August 16, 2017 11:54 AM
To: Raack, Pete <Raack.Pete@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Cc: Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: RE: Chemours GenX Options Paper Enforcement/Investigatory / Ex. 7(a)

awesome

From: Raack, Pete
Sent: Wednesday, August 16, 2017 11:53 AM
To: Miles, James <miles.james@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Cc: Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: RE: Chemours GenX Options Paper Enforcement/Investigatory / Ex. 7(a)

I've drafted a piece and I am asking Diana to take a look before I send it to you all for inclusion...

From: Miles, James
Sent: Wednesday, August 16, 2017 11:51 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Cc: Speir, Jeffrey <speir.jeffrey@epa.gov>; Raack, Pete <Raack.Pete@epa.gov>
Subject: RE: Chemours GenX Options Paper Enforcement/Investigatory / Ex. 7(a)

cc-ing Pete, which I should have done in the first instance

From: Miles, James
Sent: Wednesday, August 16, 2017 11:49 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Cc: Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: RE: Chemours GenX Options Paper Enforcement/Investigatory / Ex. 7(a)

I'll loop back to Pete later today. Once we get the Enforcement/Investigatory / Ex. 7(a) in, suggest we have Greg send to Scott Gordon and Maria Doa simultaneously by **COB today**.

Jeff – how's the WED management's review going?

Timing: my takeaway from this AM WCED general – correct me if you didn't hear this – was that Susan said we can extend to Friday. So, we can ask that R4 and OPPT get back to us by **COB Thurs**. Rosemarie is in Friday and can review.

From: Garvey, Mark
Sent: Wednesday, August 16, 2017 11:43 AM
To: Miles, James <miles.james@epa.gov>
Subject: FW: Chemours GenX Options Paper Enforcement/Investigatory / Ex. 7(a)

James,
What's the timing for the GenX paper to Susan? It sounds like the briefing is happening while Patrick is away and Susan wants something by Friday. I'd prefer to have the RCRA item in there before it goes to Region 4. Should we suggest to Region 4 to send it to Jennifer Lewis for a criminal item? Will Pete have time today? When should we send it to region 4?

Mark

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NOTE: This email and its attachments may contain confidential information,
attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Wednesday, August 16, 2017 9:51 AM

To: Raack, Pete <Raack.Pete@epa.gov>
Cc: Speir, Jeffrey <speir.jeffrey@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: Chemours GenX Options Paper 081517

Pete – thanks for helping out getting the Enforcement/Investigatory / Ex. 7(a) drafted.

From: Speir, Jeffrey
Sent: Tuesday, August 15, 2017 7:08 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours GenX Options Paper 081517

Thanks, Mark.

I have added Enforcement/Investigatory / Ex. 7(a) to the draft paper. This draft is currently with acting WED managers for their review, but I wanted to share it with you as well.

I agree that it would be good to get an OCE draft to the program offices and Region 4 in advance of transmitting it to Susan.

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From: Garvey, Mark
Sent: Tuesday, August 15, 2017 5:38 PM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Speir, Jeffrey <speir.jeffrey@epa.gov>; Miles, James <miles.james@epa.gov>
Subject: Chemours GenX Options Paper 081517

Greg, Diana and Jeff,

This is our (James and I) initial effort for the Enforcement/Investigatory / Ex. 7(a) of the GenX briefing. This does not contain any Enforcement/Investigatory / Ex. 7(a) The briefing paper is a broad overview. Maria Doa in OPPT and Scott Gordon in Region 4 want to see the paper before it goes to Susan. It would be good to share an OCE draft with the program and the region tomorrow by 1pm so we can get it to Susan by noon Thursday.

Thanks,
Mark

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garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Garvey, Mark[Garvey.Mark@epa.gov]; King, Carol[King.Carol@epa.gov]
From: Speir, Jeffrey
Sent: Mon 7/24/2017 7:51:49 PM
Subject: RE: Friday Afternoon Meeting on GenX with Patrick Traylor and Region 4

Thanks!

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Garvey, Mark
Sent: Monday, July 24, 2017 3:38 PM
To: King, Carol <King.Carol@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: FW: Friday Afternoon Meeting on GenX with Patrick Traylor and Region 4

See the notes below. I included Greg's question in case it clarifies the notes for you too.

Mark

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202-564-4168
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NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Monday, July 24, 2017 2:39 PM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Lott, Don <Lott.Don@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>
Subject: RE: Meeting on GenX with Patrick Traylor and Region 4

Deliberative Process; Ex. 5 // Law Enforcement Proceedings; Ex. 7(a)

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garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Sullivan, Greg
Sent: Monday, July 24, 2017 2:36 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Lott, Don <Lott.Don@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>
Subject: RE: Meeting on GenX with Patrick Traylor and Region 4

Deliberative Process; Ex. 5 // Law Enforcement Proceedings; Ex. 7(a)

From: Garvey, Mark
Sent: Friday, July 21, 2017 4:31 PM
To: Miles, James <miles.james@epa.gov>
Cc: Lott, Don <Lott.Don@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>
Subject: RE: Meeting on GenX with Patrick Traylor and Region 4

Don and I were invited to the AA's conference room. Patrick Traylor, Susan Shinkman, Mark Pollins, Nancy Beck, Peter Grevatt and Lee Forsgren were in the room. On the phone in Region 4: Scott Gordan, Mark Fite, Becky Allenbach, Beverly Spagg, Ken Mitchell, Verne George, and ORD had Richard Yamada.

Enforcement/Investigatory / Ex. 7(a)

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NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Friday, July 21, 2017 2:54 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Re: Susan Shinkman Came to My Office to Call Scott Gordon in Region 4

Go well?

Sent from my iPhone
On Jul 21, 2017, at 2:01 PM, Garvey, Mark <Garvey.Mark@epa.gov> wrote:

> FYI – Scott Gordon is briefing Patrick and needed details on the 1 pager
>
> We called Mark Fite & Scott Gordon together
>
> Mark
>
> ---
>
> *Mark Garvey*
> EPA Headquarters
> Office of Civil Enforcement
> Attorney
> 202-564-4168
> garvey.mark@epa.gov
>
> NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Garvey, Mark[Garvey.Mark@epa.gov]; Miles, James[miles.james@epa.gov]
Cc: Saenz, Diana[Saenz.Diana@epa.gov]
From: Sullivan, Greg
Sent: Tue 6/12/2018 4:56:55 PM
Subject: RE: FYI- NCDEQ Order June 11 -Chemours - Enforcement Coordination Call -

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

From: Garvey, Mark
Sent: Tuesday, June 12, 2018 10:29 AM
To: Miles, James <miles.james@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>
Cc: Saenz, Diana <Saenz.Diana@epa.gov>
Subject: RE: FYI- NCDEQ Order June 11 -Chemours - Enforcement Coordination Call -

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Mark

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garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Tuesday, June 12, 2018 10:23 AM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Cc: Saenz, Diana <Saenz.Diana@epa.gov>
Subject: RE: FYI- NCDEQ Order June 11 -Chemours - Enforcement Coordination Call -

Enforcement/Investigatory / Ex. 7(a)

From: Sullivan, Greg
Sent: Tuesday, June 12, 2018 10:22 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Cc: Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Subject: RE: FYI- NCDEQ Order June 11 -Chemours - Enforcement Coordination Call -

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

From: Garvey, Mark
Sent: Tuesday, June 12, 2018 8:41 AM
To: Miles, James <miles.james@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Star, David <star.david@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Martinez, Jeffrey <Martinez.Jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Anderson, Kate <Anderson.Kate@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>; Swan, Russell <Swan.Russell@epa.gov>; DeDora, Caroline <DeDora.Caroline@epa.gov>; Unger, LouAnn <unger.louann@epa.gov>; Bair, Rita <bair.rita@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Field, Stephen <Field.Stephen@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>; Ireland, Laurie <Ireland.Laurie@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Reinhart, Roger <Reinhart.Roger@epa.gov>; Valberg, Amelia <valberg.amelia@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>; daw, harry <daw.harry@epa.gov>; Gorman, John <Gorman.John@epa.gov>; Klevs, Mardi <klevs.mardi@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Paul Buellesbach <paul.buellesbach@erg.com>; Dan-Tam Nguyen <Dan-Tam.Nguyen@erg.com>; Daryl Hudson <Daryl.Hudson@erg.com>; Schulz, Susan <Schulz.Susan@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Poy, Thomas <poy.thomas@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; rogers, rick <rogers.rick@epa.gov>; Wilson, Jennifer <wilson.jenniferA@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Day, Christopher <Day.Christopher@epa.gov>; Coe, Mary <Coe.Mary@epa.gov>; Ramalho, Louis <Ramalho.Louis@epa.gov>; Lewis, Jennifer <Lewis.Jennifer@epa.gov>; Baptista, Chrisna <Baptista.Chrisna@epa.gov>; Niess, Claudia <niess.claudia@epa.gov>; Spann, Tony <Spann.Tony@epa.gov>; Timsina, Gopal <Timsina.Gopal@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Mancusi-Ungaro, Philip <Mancusi-Ungaro.Philip@epa.gov>; Bush, William <Bush.William@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Devkota, Om <devkota.om@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>
Cc: Rowsey, Kevin <rowsey.kevin@epa.gov>; Olson, Bethany <olson.bethany@epa.gov>
Subject: RE: FYI- NCDEQ Order June 11 -Chemours - Enforcement Coordination Call -

FYI- Passing along this order from the State to Chemours regarding air releases.

Mark Garvey
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Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Thursday, May 31, 2018 10:56 AM
To: Miles, James <miles.james@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Star,

David <star.david@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Martinez, Jeffrey <Martinez.Jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Anderson, Kate <Anderson.Kate@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>; Swan, Russell <Swan.Russell@epa.gov>; DeDora, Caroline <Dedora.Caroline@epa.gov>; Unger, LouAnn <unger.louann@epa.gov>; Bair, Rita <bair.rita@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Field, Stephen <Field.Stephen@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>; Ireland, Laurie <Ireland.Laurie@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Reinhart, Roger <Reinhart.Roger@epa.gov>; Valberg, Amelia <valberg.amelia@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>; daw, harry <daw.harry@epa.gov>; Gorman, John <Gorman.John@epa.gov>; Klevs, Mardi <klevs.mardi@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Paul Buellesbach <paul.buellesbach@erg.com>; Dan-Tam Nguyen <Dan-Tam.Nguyen@erg.com>; Daryl Hudson <Daryl.Hudson@erg.com>; Schulz, Susan <Schulz.Susan@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Poy, Thomas <poy.thomas@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; rogers, rick <rogers.rick@epa.gov>; Wilson, Jennifer <wilson.jenniferA@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Day, Christopher <Day.Christopher@epa.gov>; Coe, Mary <Coe.Mary@epa.gov>; Ramalho, Louis <Ramalho.Louis@epa.gov>; Lewis, Jennifer <Lewis.Jennifer@epa.gov>; Baptista, Chrisna <Baptista.Chrisna@epa.gov>; Niess, Claudia <niess.claudia@epa.gov>; Spann, Tony <Spann.Tony@epa.gov>; Timsina, Gopal <Timsina.Gopal@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Mancusi-Ungaro, Philip <Mancusi-Ungaro.Philip@epa.gov>; Bush, William <Bush.William@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Devkota, Om <devkota.om@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>

Cc: Rowsey, Kevin <rowsey.kevin@epa.gov>; Olson, Bethany <olson.bethany@epa.gov>

Subject: Today's Agenda -Chemours - Enforcement Coordination Call -

When: Today 12:30 PM-1:00 PM

Where: Personal Phone / Ex. 6

To: Garvey, Mark[Garvey.Mark@epa.gov]
From: Miles, James
Sent: Wed 5/30/2018 5:09:17 PM
Subject: FW: Notice of Intent - TSCA citizen suit
canond5705d.enrd.doj.gov_Exchange_05-29-2018_11-34-28.pdf
ATT00001.htm

From: Sullivan, Greg
Sent: Tuesday, May 29, 2018 6:06 PM
To: Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Subject: Fwd: Notice of Intent - TSCA citizen suit

Sent from my iPhone
Begin forwarded message:

> **From:** "Palmer, Leif" <Palmer.Leif@epa.gov>
> **Date:** May 29, 2018 at 2:15:41 PM EDT
> **To:** "Kelley, Rosemarie" <Kelley.Rosemarie@epa.gov>
> **Cc:** "Rubini, Suzanne" <Rubini.Suzanne@epa.gov>, "Sullivan, Greg" <Sullivan.Greg@epa.gov>
> **Subject: Fwd: Notice of Intent - TSCA citizen suit**
>
> Hi — our internet is out. Please see the email from DOJ. Greg, I left you a voicemail about this.
>
> Sent from my iPhone
> Begin forwarded message:
>
> > **From:** "Mann, Martha (ENRD)" <Martha.Mann@usdoj.gov>
> > **Date:** May 29, 2018 at 11:54:34 AM EDT
> > **To:** "palmer.leif@epa.gov" <palmer.leif@epa.gov>, "Grant.Brian@epa.gov" <Grant.Brian@epa.gov>
> > **Cc:** "Cirino, Paul (ENRD)" <Paul.Cirino@usdoj.gov>
> > **Subject: Notice of Intent - TSCA citizen suit**
> >
> > Hello Leif and Brian,
> >
> > Just checking in to see if you are aware of the attached notice of intent, and whether you have assigned the matter to an attorney in your office.
>
> **Enforcement/Investigatory / Ex. 7(a) / Deliberative Process / Ex. 5**
>
> Thanks so much,
> Martha
>
> Martha C. Mann
> United States Department of Justice
> Environment and Natural Resources Division
> 202.514.2664

To: Garvey, Mark[Garvey.Mark@epa.gov]; Miles, James[miles.james@epa.gov]
From: Speir, Jeffrey
Sent: Wed 4/18/2018 2:58:38 PM
Subject: RE: Chemours Q+A - DRAFT for Comment

Thanks, Mark. FYI – here is the post of the prior letter to Chemours that requests sampling for GenX at Washington Works: https://www.epa.gov/pfas/request-sampling-genx-water-supplies. I imagine that the current letter will be posted in a similar way.

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Garvey, Mark
Sent: Wednesday, April 18, 2018 10:54 AM
To: Miles, James <miles.james@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: RE: Chemours Q+A - DRAFT for Comment

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Tuesday, April 17, 2018 5:20 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: Chemours Q+A

From: Hull, George
Sent: Tuesday, April 17, 2018 5:17 PM
To: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Q+A

I've only be interacting with the regional public affairs staff. They actual recommended that I contact you for help in getting an answer developed for this question. So I think you can continue to move forward. Thanks, - George

---

From: Miles, James

Sent: Tuesday, April 17, 2018 4:02 PM
To: Hull, George <Hull.George@epa.gov>
Subject: RE: Chemours Q+A

Sounds good, I'm going to ask Mark to set up a call. Anyone from the Region to invite?

From: Hull, George
Sent: Tuesday, April 17, 2018 3:43 PM
To: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Q+A

James,
Sorry I didn't respond sooner. I'm supportive of bringing in whoever you recommend as helpful. I'm crashing on talking points for Susan Bodine at the moment, so I can't jump a call today, but I would be fine if you want to proceed to host a call with the others. Region 3 is thinking they may announce sampling results as early as Friday, so I think we need to turn this around pretty quickly.
Thanks, George

From: Miles, James
Sent: Monday, April 16, 2018 5:27 PM
To: Hull, George <Hull.George@epa.gov>
Subject: RE: Chemours Q+A

Enforcement/Investigatory / Ex. 7(a)

From: Hull, George
Sent: Monday, April 16, 2018 5:21 PM
To: Miles, James <miles.james@epa.gov>
Subject: Chemours Q+A

James,

Enforcement/Investigatory / Ex. 7(a)

George Hull
Acting Communications Director
Office of Enforcement and Compliance Assurance
U.S. EPA
Tel. 202-564-0790

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

To: Garvey, Mark[Garvey.Mark@epa.gov]
From: Speir, Jeffrey
Sent: Tue 4/17/2018 8:57:36 PM
Subject: RE: Chemours Q+A
GenX sampling round two request to Chemours

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Garvey, Mark
Sent: Tuesday, April 17, 2018 4:54 PM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: FW: Chemours Q+A

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Tuesday, April 17, 2018 4:01 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: Chemours Q+A

Can you set up a quick call tomorrow?

From: Hull, George
Sent: Tuesday, April 17, 2018 3:43 PM
To: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Q+A

James,
Sorry I didn't respond sooner. I'm supportive of bringing in whoever you recommend as helpful. I'm crashing on talking points for Susan Bodine at the moment, so I can't jump a call today, but I would be fine if you want to proceed to host a call with the others. Region 3 is thinking they may announce sampling results as early as Friday, so I think we need to turn this around pretty quickly.
Thanks, George

From: Miles, James
Sent: Monday, April 16, 2018 5:27 PM
To: Hull, George <Hull.George@epa.gov>
Subject: RE: Chemours Q+A

Enforcement/Investigatory / Ex. 7(a)

Enforcement/Investigatory / Ex. 7(a)

From: Hull, George
Sent: Monday, April 16, 2018 5:21 PM
To: Miles, James <miles.james@epa.gov>
Subject: Chemours Q+A

James,

Enforcement/Investigatory / Ex. 7(a)

George Hull
Acting Communications Director
Office of Enforcement and Compliance Assurance
U.S. EPA
Tel. 202-564-0790

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

To: Speir, Jeffrey[speir.jeffrey@epa.gov]
Cc: Miles, James[miles.james@epa.gov]
From: Garvey, Mark
Sent: Mon 1/8/2018 9:39:01 PM
Subject: FW: Enforcement/Investigatory / Ex. 7(a)

Enforcement/Investigatory / Ex. 7(a)

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Doa, Maria
Sent: Monday, January 08, 2018 2:15 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: RE: Enforcement/Investigatory / Ex. 7(a)

Enforcement/Investigatory / Ex. 7(a)

Maria J. Doa, Ph.D.
Director
Chemical Control Division
Office of Chemical Safety and Pollution Prevention
United States Environmental Protection Agency
1200 Pennsylvania Ave, NW
Washington, DC 20016

Tel. 202.566.0718

From: Garvey, Mark
Sent: Monday, January 08, 2018 1:34 PM
To: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: FW: Enforcement/Investigatory / Ex. 7(a)

Maria and others on GenX Team,

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process / Ex. 5

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Monday, January 08, 2018 11:02 AM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Letter Current Comms

Jeff,

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Speir, Jeffrey
Sent: Monday, January 08, 2018 10:05 AM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Letter Current Comms

Hi, all:

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

To: Speir, Jeffrey[speir.jeffrey@epa.gov]
From: Garvey, Mark
Sent: Mon 1/8/2018 6:41:43 PM
Subject: RE: Chemours Letter Current Comms - Another Question with Comments from WCED

Jeff,

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Speir, Jeffrey
Sent: Monday, January 08, 2018 12:17 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: RE: Chemours Letter Current Comms - Another Question with Comments from WCED

Hi Mark,

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Garvey, Mark
Sent: Monday, January 08, 2018 11:53 AM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Letter Current Comms - Another Question with Comments from WCED

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney

202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Monday, January 08, 2018 11:02 AM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Letter Current Comms

Jeff,

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Speir, Jeffrey
Sent: Monday, January 08, 2018 10:05 AM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Letter Current Comms

Hi, all:

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Please let me know your edits, when you are able.

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Sullivan, Greg
Sent: Monday, January 08, 2018 9:15 AM
To: King, Carol <King.Carol@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Letter Current Comms

Thanks – We had some additional comments on the TSCA related language. I'm looping James Miles.

From: King, Carol
Sent: Monday, January 08, 2018 9:12 AM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>
Subject: FW: Chemours Letter Current Comms

My email crossed with John's on Friday. I flagged this for him, but didn't hear back. So the version John sent up around 5:25 pm on 1/5 did not yet include WED's edits for the internal Qs and As, which I had emailed him separately around 5:35 pm. For instance,

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process / Ex. 5

From: Senn, John
Sent: Friday, January 05, 2018 5:25 PM
To: Starfield, Lawrence <Starfield.Lawrence@epa.gov>; Traylor, Patrick <traylor.patrick@epa.gov>; Hull, George <Hull.George@epa.gov>; Bodine, Susan <bodine.susan@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; King, Carol <King.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: Fwd: Chemours Letter Current Comms

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process / Ex. 5

Please let me know if anyone has additional edits to any of the below or wants to connect on this.
John
Sent from my iPhone

Begin forwarded message:

From: "Drinkard, Andrea" <Drinkard.Andrea@epa.gov>
Date: January 5, 2018 at 3:31:59 PM EST
To: "Forsgren, Lee" <Forsgren.Lee@epa.gov>, "Grevatt, Peter" <Grevatt.Peter@epa.gov>, "Grantham, Nancy" <Grantham.Nancy@epa.gov>, "Mclain, Jennifer" <Mclain.Jennifer@epa.gov>
Cc: "schafer, joan" <schafer.joan@epa.gov>, "Wadlington, Christina" <Wadlington.Christina@epa.gov>, "Senn, John" <Senn.John@epa.gov>, "Hull, George" <Hull.George@epa.gov>, "Mattas-Curry, Lahne" <Mattas-Curry.Lahne@epa.gov>, "Klasen, Matthew" <Klasen.Matthew@epa.gov>
Subject: Chemours Letter Current Comms

Hi all—

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process / Ex. 5

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process / Ex. 5

Andrea Drinkard
Communications Director
EPA Office of Water
Desk: 202.564.1601
Cell: Personal Phone / Ex. 6

To: Miles, James[miles.james@epa.gov]
From: Garvey, Mark
Sent: Mon 1/8/2018 2:42:41 PM
Subject: RE: Chemours Letter Current Comms

James,

I'm teleworking since it's my regular telework day and when I woke up, the forecast was for an ice coating for evening rush hour. I see that's changed to 33 degrees at 6 pm. Enough about me. When I called your office I got voice mail asking me if I want to access my mail box. Did I miss something? Do you work somewhere else with a new phone number and no need for emails about GenX?

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Monday, January 08, 2018 8:24 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Fwd: Chemours Letter Current Comms

Let's discuss this am

Sent from my iPhone
Begin forwarded message:

> **From:** "Sullivan, Greg" <Sullivan.Greg@epa.gov>
> **Date:** January 7, 2018 at 2:39:00 PM EST
> **To:** "Kelley, Rosemarie" <Kelley.Rosemarie@epa.gov>, "Miles, James" <miles.james@epa.gov>, "Saenz, Diana" <Saenz.Diana@epa.gov>, "Senn, John" <Senn.John@epa.gov>
> **Subject: RE: Chemours Letter Current Comms**

Enforcement/Investigatory / Ex. 7(a) / AC/DP / Ex. 5

From: Kelley, Rosemarie
Sent: Friday, January 05, 2018 5:48 PM
To: Miles, James <miles.james@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Subject: FW: Chemours Letter Current Comms

It seems like you should be on this email too.

Rosemarie

From: Senn, John
Sent: Friday, January 05, 2018 5:25 PM
To: Starfield, Lawrence <Starfield.Lawrence@epa.gov>; Traylor, Patrick <traylor.patrick@epa.gov>; Hull, George <Hull.George@epa.gov>; Bodine, Susan <bodine.susan@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; King, Carol <King.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: Fwd: Chemours Letter Current Comms

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process / Ex. 5

Please let me know if anyone has additional edits to any of the below or wants to connect on this.
John
Sent from my iPhone

Begin forwarded message:

> **From:** "Drinkard, Andrea" <Drinkard.Andrea@epa.gov>
> **Date:** January 5, 2018 at 3:31:59 PM EST
> **To:** "Forsgren, Lee" <Forsgren.Lee@epa.gov>, "Grevatt, Peter" <Grevatt.Peter@epa.gov>, "Grantham, Nancy" <Grantham.Nancy@epa.gov>, "Mclain, Jennifer" <Mclain.Jennifer@epa.gov>
> **Cc:** "schafer, joan" <schafer.joan@epa.gov>, "Wadlington, Christina" <Wadlington.Christina@epa.gov>, "Senn, John" <Senn.John@epa.gov>, "Hull, George" <Hull.George@epa.gov>, "Mattas-Curry, Lahne" <Mattas-Curry.Lahne@epa.gov>, "Klasen, Matthew" <Klasen.Matthew@epa.gov>
> **Subject: Chemours Letter Current Comms**
>
> Hi all—

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process / Ex. 5

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process / Ex. 5

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process / Ex. 5

Andrea Drinkard
Communications Director
EPA Office of Water
Desk: 202.564.1601
Cell: Personal Phone / Ex. 6

To: Speir, Jeffrey[speir.jeffrey@epa.gov]; Miles, James[miles.james@epa.gov]
From: Garvey, Mark
Sent: Wed 12/6/2017 8:08:26 PM
Subject: Briefing Paper with Region 4 and WCED Edits
Chemours Briefing Paper-Bodine_Reg 4_WCED comments 12_6_2017.docx

Jeff an James,

I have spoken with Ken Mitchell and gone through his edits. Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5 problems now. **Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5**

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Miles, James[miles.james@epa.gov]
From: Garvey, Mark
Sent: Thur 10/19/2017 1:14:26 PM
Subject: FW: Addition to list and Reschduling -- Chemours - Enforcement Coordination - Proposed Reschedule To Oct 26
Updates 10.17.2017.docx
CDC Article.pdf
2017-09-06 GenX Civitas SDWA 1431 Petition.pdf

James: Phil Mancusi-Ungaro asks to join the distribution list for GenX. Also, I have not received any requests to have the coordination call today so I recommend postponing a week.

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Mancusi-Ungaro, Philip
Sent: Thursday, October 19, 2017 9:08 AM
To: Buso, Roberto X <Buso.Roberto@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: Chemours - Enforcement Coordination - Proposed Reschedule To Oct 26

Mark, please add Rob to your list.

Thanks

Phil

Philip G. Mancusi-Ungaro
Attorney-Adviser
Acting Chief, Office of Water Legal Support
USEPA Region 4
61 Forsyth St, SW
Atlanta, GA 30303
Tel: 404-562-9519
Cel: Personal Phone / Ex. 6

From: Garvey, Mark
Sent: Wednesday, October 18, 2017 5:01 PM
To: Miles, James <miles.james@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Star, David <star.david@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Martinez, Jeffrey <Martinez.Jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Anderson, Kate <Anderson.Kate@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>; Swan, Russell <Swan.Russell@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>; daw, harry <daw.harry@epa.gov>; Gorman, John <Gorman.John@epa.gov>; Klevs, Mardi <klevs.mardi@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Paul Buellesbach <paul.buellesbach@erg.com>; Dan-Tam Nguyen <Dan-Tam.Nguyen@erg.com>; Daryl Hudson <Daryl.Hudson@erg.com>; Schulz, Susan <Schulz.Susan@epa.gov>; DeDora, Caroline <DeDora.Caroline@epa.gov>; Davis,

Lauren O. <Davis.LaurenO@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Unger, LouAnn <unger.louann@epa.gov>; Bair, Rita <bair.rita@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Field, Stephen <Field.Stephen@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>; Ireland, Laurie <Ireland.Laurie@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Poy, Thomas <poy.thomas@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; rogers, rick <rogers.rick@epa.gov>; Wilson, Jennifer <wilson.jenniferA@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Day, Christopher <Day.Christopher@epa.gov>; Coe, Mary <Coe.Mary@epa.gov>; Ramalho, Louis <Ramalho.Louis@epa.gov>; Lewis, Jennifer <Lewis.Jennifer@epa.gov>; Baptista, Chrisna <Baptista.Chrisna@epa.gov>; Niess, Claudia <niess.claudia@epa.gov>; Spann, Tony <Spann.Tony@epa.gov>; Timsina, Gopal <Timsina.Gopal@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Mancusi-Ungaro, Philip <Mancusi-Ungaro.Philip@epa.gov>; Bush, William <Bush.William@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Devkota, Om <devkota.om@epa.gov>
Subject: RE: Chemours - Enforcement Coordination - Proposed Reschedule To Oct 26

To the EPA Staff Working on GenX Enforcement:

James Miles and I are proposing to push the conference call back a week since we have inspections occurring today in Region 3 at the Chemours use facility in Parkersburg WV. Region 4 is assisting Region 3 in that inspection. Unless anyone wants to have the call tomorrow, we would like to reschedule for the same time and same day next week. This will give us time to organize our thoughts on the information coming in on the Region 4 follow-up questions to its inspection as well as preliminary information on the Region 3 inspection.

I'm also attaching 3 items concerning GenX .

Enforcement/Investigatory / Ex. 7(a)

Again, let me know if you want to have the call tomorrow, otherwise, James will reschedule for next week.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

-----Original Appointment-----
From: Miles, James
Sent: Friday, September 22, 2017 11:45 AM
To: Miles, James; Toney, Anthony; Doa, Maria; Star, David; Garvey, Mark; Tucker, Marlene; Ellis, Tony; Sullivan, Greg; Saenz, Diana; Martinez, Jeffrey; King, Carol; Anderson, Kate; Bean, Mark; Henry, Tala; Allison, Rose; Swan, Russell; Bookman, Robert; Pratt, Stacie; daw, harry; Gorman, John; Klevs, Mardi; Kemker, Carol; Denton, Loren; Paul Buellesbach; Dan-Tam Nguyen; Daryl Hudson; Schulz, Susan; DeDora, Caroline; Davis, Lauren O.; Gordon, Scott; Fite, Mark; George, Verne; Bates, Keith; Mitchell, Ken; Pollins, Mark; Theis, Joseph; Bahk, Benjamin; Unger, LouAnn; Bair, Rita; Shoven, Heather; Field, Stephen; Schwartz, Paul; Davis, Molly; Ireland,

Laurie; Moyer, Adam; Poy, Thomas; Speir, Jeffrey; Collins, Charlie; Aubee, Catherine; rogers, rick; Wilson, Jennifer; Harris, Kimberly; Clark, Jacqueline; Duchovnay, Andrew; Day, Christopher; Coe, Mary; Ramalho, Louis; Lewis, Jennifer; Baptista, Chrisna; Niess, Claudia; Spann, Tony; Timsina, Gopal; Allenbach, Becky; Mancusi-Ungaro, Philip; Bush, William; Janovitz, Sara; Hall, Renea; Shell, Karrie-Jo; Devkota, Om

Subject: Chemours - Enforcement Coordination Call - TSCA CBI

When: Thursday, October 19, 2017 12:30 PM-1:00 PM (UTC-05:00) Eastern Time (US & Canada).

Where: Personal Phone / Ex. 6

Continuing bi-weekly call through Nov.

CIVITAS
INSTITUTE

805 Spring Forest Rd Ste 100
Raleigh, NC 27609

web: nccivitas.org
phone: 919.834.2099
fax: 919.834.2350

6 September. 2017

VIA ELECTRONIC MAIL AND FIRST CLASS MAIL

RECEIVED
2017 SEP 11 PM 12:06
OFFICE OF THE
EXECUTIVE SECRETARIAT

The Honorable Scott Pruitt
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave.,
NW Washington, D.C. 20460

RE: Petition for Reconsideration and Request for Agency Stay Pending Reconsideration of 2015 Ozone National Ambient Air Quality Standard

Dear Administrator Pruitt,

Please find enclosed a petition to your agency seeking help for the people of Wilmington, NC and the Lower Cape Fear River under Section 1431 of the Federal Safe Drinking Water Act.

The emergency powers under Section 1431 authorizes you to order the cessation of discharge of multiple compounds by the Chemours Chemical Plant in Bladen County, North Carolina, including "Gen X" and those compounds similar to Gen X.

Your agency has exercised its authority under this Section before including in the case of discharges of similar compounds by DuPont Chemical Company in West Virginia as well as in Flint, Michigan.

The law authorizes action when imminent and substantial endangerment exists and when actions taken by the State or local authorities are inadequate to protect public health. As this petition explains, both factors apply in this instance.

Please act quickly to help the affected North Carolina citizens of the Lower Cape Fear River area.

If you have any questions regarding this petition, please do not hesitate to contact me at (919) 747-8080 or at francis.deluca@nccivitas.org

Respectfully,

Francis X De Luca

Col Francis X. De Luca USMCR(Ret)

BEFORE THE ADMINISTRATOR

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PETITION SUBMITTED ON BEHALF OF THE CIVITAS INSTITUTE FOR EMERGENCY ACTION UNDER THE SAFE DRINKING WATER ACT, 42 U.S.C. §300 TO PROTECT THE PEOPLE OF WILMINGTON, NORTH CAROLINA	EPA Docket No. [Number]

The above-listed Petitioner respectfully petitions the United States Environmental Protection Agency ("EPA") to exercise its emergency powers established in Section 1431 of the Safe Drinking Water Act (SDWA) to immediately stop the discharge of Gen X and other similar compounds from the Chemours facility into the Cape Fear River.

Section 1431 provides the EPA with emergency authority to address imminent and substantial endangerment to human health from drinking water contamination. The EPA can use this discretionary authority whenever:

(1) contamination is in or likely to enter a drinking water source which may present an imminent and substantial endangerment to the health of persons; and

(2) the appropriate state and local authorities have not acted to protect human health.

As discussed below, the discharge of Gen X, and other similar compounds may present an imminent and substantial endangerment to public health. To date the North Carolina Department of Environmental Quality, under the direction of Governor Roy Cooper and Secretary Michael Regan, has, without explanation, taken no action to stop the discharge. This Administration has been aware of the potential endangerment for months and, despite have the broad legal and regulatory powers to do so has not required Chemours to stop this discharge.

Hundreds of thousands of North Carolinians could be at risk and the Current Administration has admitted to its inability to do anything. The Cooper Administration (Governor Cooper being the state's previous Attorney General) has not even asked a court for an injunction to stop - even temporarily - the discharge. Similarly,

the NC Department of Environmental Quality has not used any of its broad state statutory authority, has not enforced the current NPDES permit under the Clean Water Act, and has not proposed a revision to the current NPDES permit that would limit or prevent the discharge of these potentially harmful pollutants.

SDWA Section 1431

Congress enacted the SDWA in 1974 to protect the quality of drinking water in the United States. Public water systems are required to comply with SDWA. States, like North Carolina, properly have primary implementation and enforcement authority. However, the federal EPA retains national oversight responsibility for state administration and enforcement of SDWA.

That oversight includes SDWA Section 1431 providing the EPA with emergency authority to address imminent and substantial endangerment to human health from drinking water contamination. The EPA can use this authority whenever:

(1) contamination is in or likely to enter a drinking water source which may present an imminent and substantial endangerment to the health of persons; and

(2) the appropriate state and local authorities have not acted to protect human health.

The petitioners are not aware a single legal or regulatory action taken by the Cooper Administration, the North Carolina Attorney General's office, or the NCDEQ to stop the discharge. Section 1431 was specifically designed for these situations.

In 1991 the federal EPA issued "Final Guidance on Emergency Authority under Section 1431 of the Safe Drinking Water Act" in part, to encourage more widespread use of the EPA's Section 1431 authority by more fully explaining situations where this authority may be applied. According to the guidance, if EPA determines

that the action is insufficient and State and local agencies do not plan to take stronger or additional actions to ensure public health protection, in a timely way, EPA should proceed with an action under Section 1431. Not only has the NCDEQ taken no action, in a television interview on August 31, 2017, the NCDEQ Secretary, when repeatedly pressed for a timetable to act, refused to answer. In this same interview the NC Department of Health and Human Services Secretary Mandy Cohen announced that she was informed of two additional chemicals allegedly being discharged by Chemours (Nafion 1 & 2). Stunningly, Secretary Cohen was aware these chemicals were similar to Gen X, had no idea how much were being emitted, and had no idea of the potential health impact yet would not advise against consuming the water. Equally stunning was Secretary Regan's response to this new information - a letter to request - not require - Chemours to stop discharging.

The Governor himself stated he is powerless to "stop or limit" the discharge unless EPA acts. On July 17, 2017, Governor cooper wrote EPA Administrator Pruitt stating that his agency cannot "limit or eliminate discharge of Gen X" until the Federal government "finalize[s] its health assessment of Gen X and set[s] a maximum contaminant level for it." In fact he is wrong since NC does have the authority under the Clean Water Act to regulate any compound deleterious to public health. However, the Governor's position is clearly consistent with the inaction NC has seen to date.

Outside of holding press conferences and television interviews, the only actions taken the Cooper Administration have been to 1) establish an unenforceable health goal for Gen X, and 2) defer establishing an enforceable standard to the North Carolina Scientific Advisory Board - a process by that by its own terms will take several years to establish and enforceable regulatory standard. All the citizens have at this moment is a possibility of an enforceable discharge standard for Gen X several years from now.

With respect to the imminent and substantial endangerment, the EPA's emergency powers under SDWA Section 1431 are to be construed broadly in order to grant the agency any authority necessary to stop or prevent a threat to public health where that threat is not likely to be addressed through other SDWA regulatory authority. Importantly, the SDWA authorizes action when there situations that "may present an imminent and substantial endangerment."

EPA has, in similar situations, invoked Section 1431 to stop discharges. In fact, in 2009 the EPA issued a 1431 order to Dupont to stop the discharge of C-8 (a perfluorooctanoic acid, CAS # 335-67-1 (PFOA)) in order to protect drinking water.

https://www.epa.gov/sites/production/files/2016-05/documents/dupont-finalorder09.pdf

Importantly, the EPA stated that Section 1431 does not taken conclusive finding of imminent and substantial endangerment - perhaps what NCDEQ is awaiting - but rather a likelihood of such harm.

Section 1431 of the SDWA requires a finding that "a contaminant which is present in or is likely to enter a public water system or an underground source of drinking water ... may present an imminent and substantial endangerment to the health of persons .... " It does not require a conclusive finding that a contaminant has, or definitely will, cause harm. As required by Section 1431 of the SDWA and for purposes of this Order, EPA has determined that C-8 is a contaminant present in or likely to enter a PWS or a USDW *which may present* an imminent and substantial endangerment to human health [at certain concentrations] ...

DuPont order at paragraph 39 (*emphasis added*)

Summary

There is sufficient evidence that EPA should invoke its authority under Section 1341 of the SDWA. The Chemour's discharge "may" cause imminent and substantial endangerment to public health and the NC Department of Environmental Quality has not only taken no regulatory action to stop or limit the discharge the Governor stated in his letter to the EPA that he cannot act unless and until the EPA acts. The Cooper Administration's response to date, which consists primarily of wringing hands, holding press conferences, and announcing investigations, is insufficient to STOP the discharge.

Dated this 6 day of September, 2017

Francis X De Luca

Col Francis X. De Luca USMCR(Ret)

To: rogers, rick[rogers.rick@epa.gov]
Cc: Tucker, Marlene[Tucker.Marlene@epa.gov]
From: Garvey, Mark
Sent: Mon 12/11/2017 4:41:18 PM
Subject: FW: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 2pm & Briefing Paper attached
OCE Weekly AA-DAA 12112017.pdf

Rick,

Making sure you have the agenda (with incorrect time) and the briefing document for the 2:00. It's below the first item in the attachment.

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Monday, December 11, 2017 8:39 AM
To: Rubini, Suzanne <Rubini.Suzanne@epa.gov>
Cc: Tucker, Marlene <Tucker.Marlene@epa.gov>; Miles, James <miles.james@epa.gov>
Subject: FW: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 2pm & Briefing Paper attached

Making sure you have the info for this afternoon's briefing with Susan Bodine.

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Saturday, December 09, 2017 12:15 AM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Cc: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Rog, Morgan <Rog.Morgan@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Nowell, Valerie <Nowell.Valerie@epa.gov>; Hansen, Susan <Hansen.Susan@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Strynar, Mark <strynar.mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; George, Verne <George.Verne@epa.gov>; Davis,

Lauren O. <Davis.LaurenO@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>
Subject: RE: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 2pm & Briefing Paper attached

There are conflicting times for the Monday meeting. The agenda from the front office says 1pm and the invite from the front office says 2.
My management believes it is **scheduled for 2pm on Monday** and the agenda has the wrong time. The attachment also has the final GenX briefing paper below the item below the agenda.

Sorry for the confusion. We'll try to clarify things on Monday.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Friday, December 08, 2017 3:15 PM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Cc: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Rog, Morgan <Rog.Morgan@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Nowell, Valerie <Nowell.Valerie@epa.gov>; Hansen, Susan <Hansen.Susan@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Strynar, Mark <strynar.mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; George, Verne <George.Verne@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>
Subject: RE: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 1pm

Attached is the agenda for the **Monday ** 1pm Susan Bodine Briefing**

It is part of the weekly OCE meeting with the AA.

OCE Weekly w/AA/DAA/PDAA, call in number **Personal Phone / Ex. 6**

Region 4 will be joined by Regions 2, 3 and 5 on the call.

I'll send the final briefing paper when it becomes available.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.govcl

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Tucker, Marlene[Tucker.Marlene@epa.gov]
Cc: Miles, James[miles.james@epa.gov]; Speir, Jeffrey[speir.jeffrey@epa.gov]
From: Garvey, Mark[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DCB64DF923844466ACAC67C1F19EABE0-MGARVEY]
Sent: Wed 11/29/2017 9:25:28 PM (UTC)
Subject: FW: Draft GenX Paper for OECA Briefing With Enforcement/Investigatory / Ex. 7(a)
Chemours GenX Briefing Paper 112817 for Dec 4.docx
Chemours GenX Briefing Paper 11_29_17 for December_rev.docx

Marlene,

Here it is. I'm sorry I missed you in the original email. You were on the list of contacts to receive it and it was an oversight on my part. I'm also sending you the revised version of today including the comments from Verne George.

Sorry again,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Tuesday, November 28, 2017 5:25 PM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; George, Verne <George.Verne@epa.gov>; Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With Enforcement/Investigatory / Ex. 7(a)

To Region 4 TSCA & Water teams,

I'm attaching a revised version of the briefing paper Jeff Speir sent earlier today. It now includes Enforcement/Investigatory / Ex. 7(a) along with a few sentences mentioning the Regions 3 and 2 involvement. After speaking with my Division Director this afternoon, this effort appears to be an extremely heavy lift to get ready by Thursday for my Office Director. While I'm still requesting comments by Thursday at noon, we will be talking with our Office Director tomorrow morning to see if there is any flexibility in the scheduling of the briefing paper. There are a lot of fast moving details here and we want to be accurate with Susan Bodine.
We will also be asking about the level of participation at the Susan Bodine meeting. We anticipate that each Region will be asked to participate. We can discuss this on Thursday afternoon's GenX bi-weekly general discussion that James Miles set up.

Please note that this is not a meeting requesting senior management direction, but rather an informational briefing for Susan Bodine.

Thanks,
Mark

Mark Garvey
EPA Headquarters

Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Speir, Jeffrey
Sent: Tuesday, November 28, 2017 12:08 PM
To: Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Draft GenX Paper for OECA Briefing

Hello, Region 4 Water Team:

The Director of the Office of Civil Enforcement at Headquarters has requested that we brief OECA leadership on GenX. The briefing will be for Larry Starfield, Patrick Traylor, and Susan Bodine, the Administrator's counsel for enforcement who has expressed interest in this matter. The briefing is scheduled for Monday, December 4 at 2:00 pm. Note: This briefing is not a request for an OECA decision; rather, it is a presentation of the issues and our federal authorities.

We have prepared the attached draft briefing paper. It somewhat resembles a briefing paper you likely saw in August, with more emphasis on background facts and the State's actions, and less emphasis on enforcement "options." My counterpart in our Enforcement/Investigatory / Ex. 7(a) division will send his updates to the relevant Region 4 Enforcement/Investigatory / Ex. 7(a) folks.

Unfortunately, the deadline to send up the briefing paper is tight. Please provide any feedback you may have to me and Mark Garvey (cc'd) by Thursday, November 30 at noon. I apologize about the timing.

Please let me know if you have any questions or if you would like to discuss this further.

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

Message

From: Garvey, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DCB64DF923844466ACAC67C1F19EABE0-MGARVEY]
Sent: 10/4/2017 8:36:06 PM
To: Miles, James [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6c27d6e7b72e48508ef8ae5768ccaad3-JMiles]
Subject: FW: Chemours Biweekly Update
Attachments: Updates 10.05.2017.docx

James,

I reviewed the attached updated chart from Verne. There are a couple of items that Region 4 expects Chemours to reply to today and one item with an overdue reply date. While the information is useful to the group, it appears like the information could be shared through an email with the group as an update without a meeting. I think in 2 weeks, Region 4 will be in a better situation to discuss DuPont's recent submittals.

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Wednesday, October 04, 2017 11:31 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: Chemours Biweekly Update

Anything of note?

From: George, Verne
Sent: Wednesday, October 04, 2017 10:30 AM
To: Miles, James <miles.james@epa.gov>
Subject: FW: Chemours Biweekly Update

James, I forgot to include you on the first email.

From: George, Verne
Sent: Wednesday, October 04, 2017 10:03 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Cc: Bookman, Robert <Bookman.Robert@epa.gov>; Bingham, Kimberly <Bingham.Kimberly@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; George, Verne <George.Verne@epa.gov>
Subject: Chemours Biweekly Update

Mark:

Attached is Chemours latest biweekly update. If you have any questions, please contact me at (404) 562-8988.

To: Miles, James[miles.james@epa.gov]
From: Garvey, Mark
Sent: Fri 12/8/2017 10:41:22 PM
Subject: FW: - Why does the Attachment say 1pm if it's at 2? Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 1pm
OCE Weekly AA-DAA 12112017.pdf

James,

Rosemarie sent me an email saying the briefing is at 2. Why does the briefing paper say 2?
Is it saying the Region 9 item is at 1 and the Chemours item is at 2?

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Friday, December 08, 2017 3:15 PM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Cc: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Rog, Morgan <Rog.Morgan@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Nowell, Valerie <Nowell.Valerie@epa.gov>; Hansen, Susan <Hansen.Susan@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Strynar, Mark <strynar.mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; George, Verne <George.Verne@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>
Subject: RE: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 1pm

Attached is the agenda for the **Monday ** 1pm Susan Bodine Briefing**

It is part of the weekly OCE meeting with the AA.

OCE Weekly w/AA/DAA/PDAA, call in number Personal Phone / Ex. 6

Region 4 will be joined by Regions 2, 3 and 5 on the call.

I'll send the final briefing paper when it becomes available.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.govcl

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Greg Sullivan[Sullivan.Greg@epa.gov]; Saenz, Diana[Saenz.Diana@epa.gov]; Miles, James[miles.james@epa.gov]
From: Garvey, Mark
Sent: Wed 8/23/2017 4:20:31 PM
Subject: RE: GenX - Chemours Authorities Paper - Enforcement/Investigatory / Ex. 7(a) / Deliberative Process /Ex. 5 Spoke with Tony Toney

Greg,

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process /Ex. 5

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Wednesday, August 23, 2017 10:38 AM
To: Greg Sullivan <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>
Subject: FW: GenX - Chemours Authorities Paper - Question on PMN strikeout

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process /Ex. 5

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Toney, Anthony
Sent: Wednesday, August 23, 2017 10:27 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: RE: GenX - Chemours Authorities Paper - Question on PMN strikeout

Mark,

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process /Ex. 5

TT

From: Garvey, Mark
Sent: Wednesday, August 23, 2017 9:41 AM
To: Toney, Anthony <Toney.Anthony@epa.gov>
Cc: Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>
Subject: FW: GenX - Chemours Authorities Paper - Question on PMN strikeout

Tony,

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process /Ex. 5

Thanks
Mark

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process /Ex. 5

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney

202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Speir, Jeffrey
Sent: Tuesday, August 22, 2017 12:34 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Cc: Fergusson, Bruce <Fergusson.Bruce@epa.gov>
Subject: FW: GenX - Chemours Authorities Paper

Hi Mark,

Attached is what we received from Scott Gordon.

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Gordon, Scott
Sent: Tuesday, August 22, 2017 11:46 AM
To: Pollins, Mark <Pollins.Mark@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: FW: GenX - Chemours Authorities Paper

Mark,

Looks like our edits did not make it into the draft for your meeting today with Larry.

Thanks,
Scott

From: Gordon, Scott
Sent: Monday, August 21, 2017 8:46 AM
To: Miles, James <miles.james@epa.gov>
Subject: RE: GenX - Chemours Authorities Paper

James,

Here are the R4 suggested edits. Please let me know when the next version is ready for discussion. Enforcement/Investigatory / Ex. 7(a) / Deliberative Process /Ex. 5

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process /Ex. 5

Thanks,

Scott

From: Miles, James
Sent: Thursday, August 17, 2017 11:01 AM
To: Gordon, Scott <Gordon.Scott@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Nagle, Deborah <Nagle.Deborah@epa.gov>; Thompkins, Anita <Thompkins.Anita@epa.gov>

Cc: Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Baney, Tony <Baney.Tony@epa.gov>; Seltzer, Mark <Seltzer.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>
Subject: GenX - Chemours Authorities Paper

Hi all –

As discussed earlier in the week, please find attached a draft paper discussing the pertinent enforcement and regulatory authorities to respond to the GenX situation. We're especially seeking comments from our program counterparts on the regulatory front.

In terms of timing, our OCE OECA Office Director would like to have a draft by COB Friday. For us to incorporate your comments, we would need them at the latest by **10AM tomorrow**. Apologies for the tight turnaround, but we'll continue to work closely with you even after the draft moves forward.

Please send comments/revisions/questions to Mark Garvey, Greg Sullivan and me.

Thanks in advance!

James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A
1201 Constitution Ave., NW
Washington, DC 20004
202.564.5161
miles.james@epa.gov

To: Miles, James[miles.james@epa.gov]
From: Garvey, Mark
Sent: Tue 12/5/2017 4:04:27 PM
Subject: FW: Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA
Gomis2015-modellin-physicochemical.pdf
Sun et al. 2016.pdf
Strynar et al. 2015.pdf

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Lindstrom, Andrew
Sent: Wednesday, November 29, 2017 11:17 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>; Libelo, Laurence <Libelo.Laurence@epa.gov>
Cc: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA

Mark,

Deliberative Process / Ex. 5

Thank you,

Andy

From: Garvey, Mark
Sent: Wednesday, November 29, 2017 10:52 AM
To: Libelo, Laurence <Libelo.Laurence@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Cc: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA

Thanks Laurence.

There's a lot of info there.

- **Deliberative Process / Ex. 5**
-

-

Deliberative Process / Ex. 5

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Libelo, Laurence
Sent: Wednesday, November 29, 2017 9:48 AM
To: Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Cc: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA

Hi Mark,

Deliberative Process / Ex. 5

OK, Getting down off my soapbox – to answer your question -

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

From: Lindstrom, Andrew
Sent: Wednesday, November 29, 2017 8:48 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>; Libelo, Laurence <Libelo.Laurence@epa.gov>
Cc: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA

Mark,

Deliberative Process / Ex. 5

Please let me know if you have other questions.

Thank you,

Andy

From: Garvey, Mark
Sent: Wednesday, November 29, 2017 8:43 AM
To: Libelo, Laurence <Libelo.Laurence@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Subject: FW: Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA

Lawrence and Andrew,

In the email below, the water staff from Region 4 says the following -

Deliberative Process / Ex. 5

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168

garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Shell, Karrie-Jo
Sent: Wednesday, November 29, 2017 8:27 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; George, Verne <George.Verne@epa.gov>; Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA

Deliberative Process / Ex. 5

Karrie-Jo Robinson-Shell, P.E.
Environmental Engineer
US EPA Region 4
Water Protection Division
61 Forsyth Street
Atlanta, GA 30303
(404) 562-9308

From: Garvey, Mark
Sent: Tuesday, November 28, 2017 5:25 PM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; George, Verne <George.Verne@epa.gov>; Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>
Subject: RE: Draft GenX Paper for OECA Briefing With SDWA/CWA/ TSCA/RCRA

To Region 4 TSCA & Water teams,

I'm attaching a revised version of the briefing paper Jeff Speir sent earlier today. It now includes TSCA and RCRA sections along with a few sentences mentioning the Regions 3 and 2 involvement. After speaking with my Division Director this afternoon, this

effort appears to be an extremely heavy lift to get ready by Thursday for my Office Director. While I'm still requesting comments by Thursday at noon, we will be talking with our Office Director tomorrow morning to see if there is any flexibility in the scheduling of the briefing paper. There are a lot of fast moving details here and we want to be accurate with Susan Bodine.
We will also be asking about the level of participation at the Susan Bodine meeting. We anticipate that each Region will be asked to participate. We can discuss this on Thursday afternoon's GenX bi-weekly general discussion that James Miles set up.

Please note that this is not a meeting requesting senior management direction, but rather an informational briefing for Susan Bodine.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Speir, Jeffrey
Sent: Tuesday, November 28, 2017 12:08 PM
To: Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>
Cc: Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Draft GenX Paper for OECA Briefing

Hello, Region 4 Water Team:

The Director of the Office of Civil Enforcement at Headquarters has requested that we brief OECA leadership on GenX. The briefing will be for Larry Starfield, Patrick Traylor, and Susan Bodine, the Administrator's counsel for enforcement who has expressed interest in this matter. The briefing is scheduled for Monday, December 4 at 2:00 pm. Note: This briefing is not a request for an OECA decision; rather, it is a presentation of the issues and our federal authorities.

We have prepared the attached draft briefing paper. It somewhat resembles a briefing paper you likely saw in August, with more emphasis on background facts and the State's actions, and less emphasis on enforcement "options." My counterpart in our TSCA/RCRA division will send his updates to the relevant Region 4 TSCA/RCRA folks.

Unfortunately, the deadline to send up the briefing paper is tight. Please provide any feedback you may have to me and Mark Garvey (cc'd) by Thursday, November 30 at noon. I apologize about the timing.

Please let me know if you have any questions or if you would like to discuss this further.

-Jeff

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

To: Libelo, Laurence[Libelo.Laurence@epa.gov]; Strynar, Mark[strynar.mark@epa.gov]; Miles, James[miles.james@epa.gov]
Cc: Lindstrom, Andrew[Lindstrom.Andrew@epa.gov]; Speir, Jeffrey[speir.jeffrey@epa.gov]
From: Garvey, Mark
Sent: Tue 10/24/2017 1:22:12 PM
Subject: RE: Enforcement/Investigatory / Ex. 7(a)

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Libelo, Laurence
Sent: Tuesday, October 24, 2017 9:03 AM
To: Strynar, Mark <Strynar.Mark@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: RE: Enforcement/Investigatory/ Ex. 7(a)

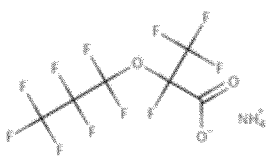
The HFPO dimer acid and ammonium salt are only two of the HFPO dimer acid ion sources. If any of the other salts – K, Ca etc are released they will form the acid in water.

It is pretty likely that most of the HFPO dimer acid present in the Chemours releases are not the ammonium salt or the protonated acid.

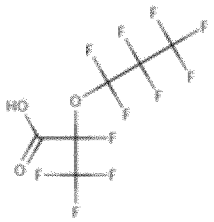
Laurence

From: Strynar, Mark
Sent: Tuesday, October 24, 2017 8:34 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Libelo, Laurence <Libelo.Laurence@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: RE: Enforcement/Investigatory / Ex. 7(a)

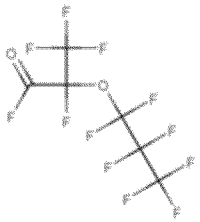
Assuming in this sanitized consent order:
P-08-509 is the GenX (ammonium salt CAS 62037-80-3)
https://comptox.epa.gov/dashboard/dsstoxdb/results?search=Ammonium+2-%28perfluoropropoxy%29perfluoropropionate



and P-08-508 is the free acid (aka. HFPO-DA – CAS 13252-13-6)
https://comptox.epa.gov/dashboard/dsstoxdb/results?utf8=%E2%9C%93&search=13252-13-6



This fails to mention the acid fluoride version of the HFPO-DA (CAS 2062-98-8)
https://comptox.epa.gov/dashboard/dsstoxdb/results?utf8=%E2%9C%93&search=2062-98-8



Which could also contribute to emissions both in wastewater and air.

Mark

From: Garvey, Mark
Sent: Monday, October 23, 2017 10:27 AM
To: Miles, James <miles.james@epa.gov>
Cc: Libelo, Laurence <Libelo.Laurence@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: RE: Enforcement/Investigatory / Ex. 7(a)

James,

I'm attaching the DuPont/Chemours TSCA 5(e) Consent Order sanitized version. There are numerous statements made in the 5(e) Order relating to the requirement to limit air emissions to an overall efficiency of 99%. I'm pasting below several of those statements.

Pages iii. & iv

II. SUMMARY OF TERMS OF THE ORDER

The Consent Order for these PMN substances requires the Company to:

(f) for operations in the United States, recover and capture (destroy) or recycle the PMN substances from all the process wastewater effluent streams and air emissions (point source and fugitive) at an overall efficiency of 99% and distribute only to those customers that achieve this percentage of efficiency or destruction;

Page xiv

Releases to the environment were estimated to water and to air (fugitive) and to air via incineration. Based on submitter information, the Company currently collects the waste containing the PMN substances and sends the waste to an off-site RCRA incinerator. In the future, the Company intends to develop and use methods to recapture and/or recycle the substances, but is not now doing so. EPA requires in the attached Consent Order that the substances be recovered, recycled and/or destroyed at levels achieving 99% efficiency. EPA will require that the Company directly sell the substances only to customers, if any, that achieve comparable recovery or destruction.

Page 36

CONTROL OF EFFLUENT & EMISSIONS

(a) The Company shall recover and capture (destroy) or recycle the PMN substances at an overall efficiency of 99% from all the effluent process streams and the air emissions (point source and fugitive).

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Thursday, October 19, 2017 11:51 AM
To: Miles, James <miles.james@epa.gov>
Cc: Libelo, Laurence <Libelo.Laurence@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Strynar, Mark <strynar.mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: FW: Enforcement/Investigatory / Ex. 7(a)

Enforcement/Investigatory / Ex. 7(a)

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Tucker, Marlene
Sent: Thursday, October 19, 2017 9:45 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: data requested

Mark,

Enforcement/Investigatory / Ex. 7(a)

Regards

Marlene Tucker

From: Bookman, Robert
Sent: Wednesday, October 18, 2017 11:55 AM
To: Tucker, Marlene <Tucker.Marlene@epa.gov>
Subject: FW: data requested

Marlene, FYI.

Robert

From: Allenbach, Becky
Sent: Wednesday, October 18, 2017 11:50 AM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>
Cc: Doa, Maria <Doa.Maria@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>
Subject: Re: data requested

Maria, as explained by NC yesterday, Enforcement/Investigatory/ Ex. 7(a)

Enforcement/Investigatory/ Ex. 7(a)

Becky B. Allenbach, Chief
Grants and Drinking Water Protection Branch
Water Protection Division - Region 4
404-562-9687

On Oct 18, 2017, at 11:45 AM, Mitchell, Ken <Mitchell.Ken@epa.gov> wrote:

> Maria...please find attached air emission data requested by NC and provided by Chemours. Please let us know if you have any questions.
>
> ---
>
> **Kenneth L. Mitchell, Ph.D.** | Special Assistant to the Director |
> Air, Pesticides, and Toxics Management Division
> U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303
> Voice: 404-562-9065 | Fax: 404-562-9066 | Email: mitchell.ken@epa.gov
>
> NOTICE: This communication may contain privileged or other confidential information. If you are not the intended recipient, or believe that you have received this communication in error, please do not print, copy, retransmit, disseminate, or otherwise use the information. Also, please indicate to the sender that you have received this communication in error, and delete the copy you received.
>
> ---
>
> **From:** Allenbach, Becky
> **Sent:** Tuesday, October 17, 2017 7:30 PM
> **To:** Kemker, Carol <Kemker.Carol@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>
> **Subject:** FW: data requested
>
> Carol and Ken:
>
> This was discussed on our weekly check in with NC. Enforcement/Investigatory/ Ex. 7(a) I was hoping you could share this with your HQ TSCA counterparts. I can fill in info if needed.
>
> Becky
>
> Becky B. Allenbach, Chief
> Grants and Drinking Water Protection Branch
> Water Protection Division
> EPA Region 4 – Atlanta
> Office: 404-562-9687
> Cell: Personal Phone / Ex. 6

CONFIDENTIALITY NOTICE: This message is intended exclusively for the individual(s) or entity(s) to whom or to which it is addressed. This communication may contain information that is proprietary, privileged, pre-decisional, confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it. If you have received this message in error, please notify the sender immediately by e-mail and delete all copies of the message.

From: Culpepper, Linda [mailto:linda.culpepper@ncdenr.gov]
Sent: Tuesday, October 17, 2017 4:08 PM
To: Buckley, Timothy <Buckley.Timothy@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; France, Danny <France.Danny@epa.gov>
Cc: Scott, Michael <michael.scott@ncdenr.gov>; Woosley, Julie <julie.woosley@ncdenr.gov>; Johnson, Chris <chris.johnson@ncdenr.gov>; Cox, Heidi <heidi.cox@ncdenr.gov>; Allen, Trent <trent.allen@ncdenr.gov>; Gregson, Jim <jim.gregson@ncdenr.gov>; michael.abraczinskas@ncdenr.gov
Subject: FW: data requested

Forwarding air emissions data.

Linda Culpepper
Deputy Director
Division of Water Resources
North Carolina Department of Environmental Quality

1611 Mail Service Center
Phone: 919-707-9014

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Abraczinskas, Michael
Sent: Tuesday, October 17, 2017 3:55 PM
To: Culpepper, Linda <linda.culpepper@ncdenr.gov>
Subject: data requested

Linda,
Attached you'll find the emissions data requested by EPA today. Please pass along to the points of contact.
Thanks!
-Mike

Mike Abraczinskas, EIT, CPM
Director, Division of Air Quality
North Carolina Department of Environmental Quality

919 707 8447 office
michael.abraczinskas@ncdenr.gov

217 West Jones Street
1641 Mail Service Center
Raleigh, NC 27699

<image001.png>

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

<DEQ Emissions Information Dimer Acid.docx>

To: George, Verne[George.Verne@epa.gov]
Cc: 'Dan-Tam Nguyen'[Dan-Tam.Nguyen@erg.com]; Daryl Hudson[Daryl.Hudson@erg.com]
From: Garvey, Mark
Sent: Tue 6/20/2017 7:39:22 PM
Subject: FW: Documents - Region 4 inspection
Chemours GenX.pptx
sanitized_consent_order_p_08_0508_and_0509 (006).pdf
Sun et al. 2016.pdf
Chemours Briefing for Acting RA 061417 WPD Update 6-16-17 BBA.docx

Verne,

Just making sure you have what I presented to my management this morning. Several items are from Region 4 so sorry for the redundancy. I can also send the 8(e) items that have been sent to me from OPPT if you think it will help.

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information,
attorney-work product, enforcement sensitive material or privileged information.

-----Original Message-----
From: Garvey, Mark
Sent: Tuesday, June 20, 2017 9:11 AM
To: Miles, James <miles.james@epa.gov>; Haas, Craig <Haas.Craig@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Bernota, Carolyn <Bernota.Carolyn@epa.gov>
Subject: RE: Region 4 inspection

Enforcement/Investigatory / Ex. 7(a)

Let me know if there are other items you want to discuss.

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

-----Original Message-----
From: Miles, James
Sent: Tuesday, June 20, 2017 8:58 AM
To: Haas, Craig <Haas.Craig@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Bernota, Carolyn <Bernota.Carolyn@epa.gov>
Subject: Region 4 inspection

Enforcement/Investigatory / Ex. 7(a)

Sent from my iPhone

To: Sullivan, Greg[Sullivan.Greg@epa.gov]; Miles, James[miles.james@epa.gov]
Cc: Lott, Don[Lott.Don@epa.gov]; Saenz, Diana[Saenz.Diana@epa.gov]; Ellis, Tony[Ellis.Tony@epa.gov]
From: Garvey, Mark
Sent: Mon 7/24/2017 7:42:01 PM
Subject: RE: Meeting on GenX with Patrick Traylor and Region 4

Enforcement/Investigatory / Ex. 7(a)

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Sullivan, Greg
Sent: Monday, July 24, 2017 3:05 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Lott, Don <Lott.Don@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>
Subject: RE: Meeting on GenX with Patrick Traylor and Region 4

Thanks Mark,

James,

Enforcement/Investigatory / Ex. 7(a)

From: Garvey, Mark
Sent: Monday, July 24, 2017 2:39 PM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Lott, Don <Lott.Don@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>
Subject: RE: Meeting on GenX with Patrick Traylor and Region 4

Enforcement/Investigatory / Ex. 7(a)

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Sullivan, Greg

Sent: Monday, July 24, 2017 2:36 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Lott, Don <Lott.Don@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>
Subject: RE: Meeting on GenX with Patrick Traylor and Region 4

Enforcement/Investigatory / Ex. 7(a)

From: Garvey, Mark
Sent: Friday, July 21, 2017 4:31 PM
To: Miles, James <miles.james@epa.gov>
Cc: Lott, Don <Lott.Don@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>
Subject: RE: Meeting on GenX with Patrick Traylor and Region 4

Enforcement/Investigatory / Ex. 7(a)

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Friday, July 21, 2017 2:54 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Re: Susan Shinkman Came to My Office to Call Scott Gordon in Region 4

Go well?

Sent from my iPhone
On Jul 21, 2017, at 2:01 PM, Garvey, Mark <Garvey.Mark@epa.gov> wrote:

> FYI – Scott Gordon is briefing Patrick and needed details on the 1 pager
>
> We called Mark Fite & Scott Gordon together
>
> Mark
>
> ---
>
> *Mark Garvey*
> EPA Headquarters
> Office of Civil Enforcement
> Attorney
> 202-564-4168
> garvey.mark@epa.gov
>
> NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Tucker, Marlene[Tucker.Marlene@epa.gov]
From: Garvey, Mark
Sent: Mon 7/24/2017 2:07:39 PM
Subject: INTERNAL --FW: Meeting on GenX with Patrick Traylor and Region 4

Enforcement Sensitive

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Friday, July 21, 2017 4:31 PM
To: Miles, James <miles.james@epa.gov>
Cc: Lott, Don <Lott.Don@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>
Subject: RE: Meeting on GenX with Patrick Traylor and Region 4

Enforcement/Investigatory / Ex. 7(a)

Enforcement/Investigatory / Ex. 7(a)

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Friday, July 21, 2017 2:54 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Re: Susan Shinkman Came to My Office to Call Scott Gordon in Region 4

Go well?

Sent from my iPhone
On Jul 21, 2017, at 2:01 PM, Garvey, Mark <Garvey.Mark@epa.gov> wrote:

> FYI – Scott Gordon is briefing Patrick and needed details on the 1 pager
>
> We called Mark Fite & Scott Gordon together
>
> Mark
>
> *Mark Garvey*
> EPA Headquarters
> Office of Civil Enforcement
> Attorney
> 202-564-4168
> garvey.mark@epa.gov
>
> NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Miles, James[miles.james@epa.gov]
From: Garvey, Mark
Sent: Tue 6/12/2018 2:32:20 PM
Subject: RE: FYI- NCDEQ Order June 11 -Chemours - Enforcement Coordination Call -

It was supposed to be with Catherine Aubee and Tala inserted herself

---

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Tuesday, June 12, 2018 10:30 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: RE: FYI- NCDEQ Order June 11 -Chemours - Enforcement Coordination Call -

Where was I?

From: Garvey, Mark
Sent: Tuesday, June 12, 2018 10:29 AM
To: Miles, James <miles.james@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>
Cc: Saenz, Diana <Saenz.Diana@epa.gov>
Subject: RE: FYI- NCDEQ Order June 11 -Chemours - Enforcement Coordination Call -

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

We should talk more about the discussion. Lynn Vendinello was also on the phone.

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Tuesday, June 12, 2018 10:23 AM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Cc: Saenz, Diana <Saenz.Diana@epa.gov>
Subject: RE: FYI- NCDEQ Order June 11 -Chemours - Enforcement Coordination Call -

Enforcement/Investigatory / Ex. 7(a)

From: Sullivan, Greg
Sent: Tuesday, June 12, 2018 10:22 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Cc: Miles, James <miles.james@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>
Subject: RE: FYI- NCDEQ Order June 11 -Chemours - Enforcement Coordination Call -

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

From: Garvey, Mark
Sent: Tuesday, June 12, 2018 8:41 AM
To: Miles, James <miles.james@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Star, David <star.david@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Martinez, Jeffrey <Martinez.Jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Anderson, Kate <Anderson.Kate@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>; Swan, Russell <Swan.Russell@epa.gov>; DeDora, Caroline <DeDora.Caroline@epa.gov>; Unger, LouAnn <unger.louann@epa.gov>; Bair, Rita <bair.rita@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Field, Stephen <Field.Stephen@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>; Ireland, Laurie <Ireland.Laurie@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Reinhart, Roger <Reinhart.Roger@epa.gov>; Valberg, Amelia <valberg.amelia@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>; daw, harry <daw.harry@epa.gov>; Gorman, John <Gorman.John@epa.gov>; Klevs, Mardi <klevs.mardi@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Paul Buellesbach <paul.buellesbach@erg.com>; Dan-Tam Nguyen <Dan-Tam.Nguyen@erg.com>; Daryl Hudson <Daryl.Hudson@erg.com>; Schulz, Susan <Schulz.Susan@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Poy, Thomas <poy.thomas@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; rogers, rick <rogers.rick@epa.gov>; Wilson, Jennifer <wilson.jenniferA@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Day, Christopher <Day.Christopher@epa.gov>; Coe, Mary <Coe.Mary@epa.gov>; Ramalho, Louis <Ramalho.Louis@epa.gov>; Lewis, Jennifer <Lewis.Jennifer@epa.gov>; Baptista, Chrisna <Baptista.Chrisna@epa.gov>; Niess, Claudia <niess.claudia@epa.gov>; Spann, Tony <Spann.Tony@epa.gov>; Timsina, Gopal <Timsina.Gopal@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Mancusi-Ungaro, Philip <Mancusi-Ungaro.Philip@epa.gov>; Bush, William <Bush.William@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Devkota, Om <devkota.om@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>
Cc: Rowsey, Kevin <rowsey.kevin@epa.gov>; Olson, Bethany <olson.bethany@epa.gov>
Subject: RE: FYI- NCDEQ Order June 11 -Chemours - Enforcement Coordination Call -

FYI- Passing along this order from the State to Chemours regarding air releases.

Mark Garvey
EPA Headquarters

Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Garvey, Mark
Sent: Thursday, May 31, 2018 10:56 AM
To: Miles, James <miles.james@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Star, David <star.david@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Martinez, Jeffrey <Martinez.Jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Anderson, Kate <Anderson.Kate@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Allison, Rose <Allison.Rose@epa.gov>; Swan, Russell <Swan.Russell@epa.gov>; DeDora, Caroline <Dedora.Caroline@epa.gov>; Unger, LouAnn <unger.louann@epa.gov>; Bair, Rita <bair.rita@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Field, Stephen <Field.Stephen@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Davis, Molly <Davis.Molly@epa.gov>; Ireland, Laurie <Ireland.Laurie@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Reinhart, Roger <Reinhart.Roger@epa.gov>; Valberg, Amelia <valberg.amelia@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>; daw, harry <daw.harry@epa.gov>; Gorman, John <Gorman.John@epa.gov>; Klevs, Mardi <klevs.mardi@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Paul Buellesbach <paul.buellesbach@erg.com>; Dan-Tam Nguyen <Dan-Tam.Nguyen@erg.com>; Daryl Hudson <Daryl.Hudson@erg.com>; Schulz, Susan <Schulz.Susan@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Gordon, Scott <Gordon.Scott@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Poy, Thomas <poy.thomas@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; rogers, rick <rogers.rick@epa.gov>; Wilson, Jennifer <wilson.jenniferA@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Day, Christopher <Day.Christopher@epa.gov>; Coe, Mary <Coe.Mary@epa.gov>; Ramalho, Louis <Ramalho.Louis@epa.gov>; Lewis, Jennifer <Lewis.Jennifer@epa.gov>; Baptista, Chrisna <Baptista.Chrisna@epa.gov>; Niess, Claudia <niess.claudia@epa.gov>; Spann, Tony <Spann.Tony@epa.gov>; Timsina, Gopal <Timsina.Gopal@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Mancusi-Ungaro, Philip <Mancusi-Ungaro.Philip@epa.gov>; Bush, William <Bush.William@epa.gov>; Janovitz, Sara <Janovitz.Sara@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Devkota, Om <devkota.om@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Walker, Mary <walker.mary@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>
Cc: Rowsey, Kevin <rowsey.kevin@epa.gov>; Olson, Bethany <olson.bethany@epa.gov>
Subject: Today's Agenda -Chemours - Enforcement Coordination Call -

When: Today 12:30 PM-1:00 PM
Where: Personal Phone / Ex. 6

Message

From: Garvey, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DCB64DF923844466ACAC67C1F19EABE0-MGARVEY]
Sent: 7/18/2017 6:20:59 PM
To: Williams, Jecoliah [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=52c4d1abd5694048ad3fe669fa53e76c-Williams, J]
Subject: FW: Dupont/WV consent order on discharges of GENX at Parkersburg
Attachments: DuPont.pdf; C3_acid_dimer.pdf

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Libelo, Laurence
Sent: Thursday, June 15, 2017 11:37 AM
To: Tobias, David <Tobias.David@epa.gov>; Sarraino, Stephanie <sarraino.stephanie@epa.gov>; Krasnic, Toni <krasnic.toni@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Dupont/WV consent order on discharges of GENX at Parkersburg

Here is some info on the discharges in Parkersburg WV. WV has a consent order that talks about the EPA consent order and what it means for discharges in WV and other places.

I don't have the actual measured effluent values.

To: Garvey, Mark[Garvey.Mark@epa.gov]
From: Garvey, Mark
Sent: Mon 5/14/2018 9:18:46 PM
Subject: FW: FYI- Preparing a Complaint for Chemours in Region 4 _INTERNAL
DuPont TSCA-2011-5052-WP.docx
E.I DuPont EAB Memo TSCA-HQ-2011-5052.pdf
Copy of PCC Complaint.pdf

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Ellis, Tony
Sent: Monday, May 14, 2018 4:03 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: RE: FYI- Preparing a Complaint for Chemours in Region 4 _INTERNAL

Mark –

Enforcement/Investigatory / Ex. 7(a) / Attorney Work Product / Ex. 5

Tony R. Ellis, Case Development Officer
Waste and Chemical Enforcement Division (2249A)
Office of Civil Enforcement - Room 4102D-WJC South
1200 Pennsylvania Ave., NW
Washington, DC 20460

From: Garvey, Mark
Sent: Monday, May 14, 2018 2:57 PM
To: Ellis, Tony <Ellis.Tony@epa.gov>
Subject: FYI- Preparing a Complaint for Chemours in Region 4 _INTERNAL

Do Not Release.
Documents in Preparation for Litigation

Tony,

Enforcement/Investigatory / Ex. 7(a) / Attorney Work Product / Ex. 5

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Miles, James[miles.james@epa.gov]; Hull, George[Hull.George@epa.gov]; Speir, Jeffrey[speir.jeffrey@epa.gov]
From: Garvey, Mark
Sent: Wed 4/18/2018 3:03:50 PM
Subject: RE: Chemours Q+A for GenX Region 3

George,
Below are 2 questions with edits after review by WCED and Water Enforcement staff.
Thanks -- Mark

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Tuesday, April 17, 2018 5:20 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: Chemours Q+A

From: Hull, George
Sent: Tuesday, April 17, 2018 5:17 PM
To: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Q+A

I've only be interacting with the regional public affairs staff. They actual recommended that I contact you for help in getting an answer developed for this question. So I think you can continue to move forward. Thanks, - George

---

From: Miles, James
Sent: Tuesday, April 17, 2018 4:02 PM
To: Hull, George <Hull.George@epa.gov>
Subject: RE: Chemours Q+A

Sounds good, I'm going to ask Mark to set up a call. Anyone from the Region to invite?

From: Hull, George
Sent: Tuesday, April 17, 2018 3:43 PM
To: Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Q+A

James,
Sorry I didn't respond sooner. I'm supportive of bringing in whoever you recommend as helpful. I'm crashing on talking points for Susan Bodine at the moment, so I can't jump a call today, but I would be fine if you want to proceed to host a call with the others. Region 3 is thinking they may announce sampling results as early as Friday, so I think we need to turn this around pretty quickly.
Thanks, George

From: Miles, James
Sent: Monday, April 16, 2018 5:27 PM
To: Hull, George <Hull.George@epa.gov>
Subject: RE: Chemours Q+A

Enforcement/Investigatory / Ex. 7(a)

From: Hull, George
Sent: Monday, April 16, 2018 5:21 PM
To: Miles, James <miles.james@epa.gov>
Subject: Chemours Q+A

James,

Enforcement/Investigatory / Ex. 7(a)

George Hull
Acting Communications Director
Office of Enforcement and Compliance Assurance
U.S. EPA
Tel. 202-564-0790

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Message

From: DC-WJCS-4124-M@epa.gov [DC-WJCS-4124-M@epa.gov]
Sent: 2/8/2018 5:25:19 PM
To: Garvey, Mark [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dcb64df923844466acac67c1f19eabe0-Mgarvey]; Miles, James [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6c27d6e7b72e48508ef8ae5768ccaad3-JMiles]
Attachments: image2018-02-08-122519.pdf

To: Vendinello, Lynn[Vendinello.Lynn@epa.gov]
Cc: Henry, Tala[Henry.Tala@epa.gov]; Fehrenbacher, Cathy[Fehrenbacher.Cathy@epa.gov]
From: Blunck, Christopher
Sent: Wed 4/25/2018 7:15:06 PM
Subject: RE: OPPT/OECA Monthly - looping Tala in on this

Thanks!

Chris Blunck
Special Assistant/Policy Advisor
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Phone: 202-564-8078
Fax: 202-564-0575

From: Vendinello, Lynn
Sent: Wednesday, April 25, 2018 3:09 PM
To: Blunck, Christopher <Blunck.Chris@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>
Subject: RE: OPPT/OECA Monthly - looping Tala in on this

Chris, both Bethany Olson and Manuel Ronquillo in CCD are available to talk about what we are doing in CCD and to answer OECA's questions.

Lynn Vendinello
Acting Division Director
Chemical Control Division
Office of Pollution Prevention and Toxics
US. EPA
202-566-0514

From: Blunck, Christopher
Sent: Wednesday, April 25, 2018 2:55 PM
To: Henry, Tala <Henry.Tala@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>
Subject: RE: OPPT/OECA Monthly - looping Tala in on this

Re your question, I think what James sent was directed to us, but frankly, it seems it should be joint effort – but I've no idea of status.

Still the q, should we discuss tomorrow at 1 at the OPPT-OECA general -- will the right folks be avail?

Chris Blunck
Special Assistant/Policy Advisor
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Phone: 202-564-8078
Fax: 202-564-0575

From: Henry, Tala
Sent: Tuesday, April 24, 2018 6:15 PM
To: Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Blunck, Christopher <Blunck.Chris@epa.gov>; Vendinello, Lynn

<Vendinello.Lynn@epa.gov>
Subject: RE: OPPT/OECA Monthly - looping Tala in on this

Deliberative Process / Ex. 5

Tala R. Henry, Ph.D.
Director, Risk Assessment Division
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency

T: 202-564-2959
E: henry.tala@epa.gov

From: Fehrenbacher, Cathy
Sent: Tuesday, April 24, 2018 5:34 PM
To: Blunck, Christopher <Blunck.Chris@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>
Subject: RE: OPPT/OECA Monthly - looping Tala in on this

Tala is working the GenX issue; looping her in on this. Tala, see below for questions from Chris regarding the upcoming monthly with OECA.

Cathy Fehrenbacher, CIH
Acting Deputy Director, Risk Assessment Division
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W. (7403M)
Washington, DC 20460

Phone: (202) 564-8551
Fax: (202) 564-7450
Deliveries: 1201 Constitution Ave N.W., room 6220B EPA East

From: Blunck, Christopher
Sent: Tuesday, April 24, 2018 5:32 PM
To: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>
Subject: FW: OPPT/OECA Monthly

What do you think about discussing the points below on Thurs? Is the monthly OECA meeting an appropriate fora for this discussion?

As you may have seen, Erik Winchester ID'ed a couple formaldehyde-related issues for discussion at the meeting, which could also be discussed.

Chris Blunck
Special Assistant/Policy Advisor
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Phone: 202-564-8078
Fax: 202-564-0575

From: Miles, James
Sent: Tuesday, April 24, 2018 2:05 PM
To: Blunck, Christopher <Blunck.Chris@epa.gov>

Cc: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>
Subject: RE: OPPT/OECA Monthly

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5

From: Blunck, Christopher
Sent: Tuesday, April 24, 2018 12:40 PM
To: Miles, James <miles.james@epa.gov>
Cc: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Seltzer, Mark <Seltzer.Mark@epa.gov>
Subject: RE: OPPT/OECA Monthly

James – I understand you have period calls w/ OPPT on the Chemours 5e Consent Order / hazard assessment work. What more specifically is it that you all would want to discuss at this meeting?

Chris Blunck
Special Assistant/Policy Advisor
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Phone: 202-564-8078
Fax: 202-564-0575

From: Miles, James
Sent: Tuesday, April 24, 2018 10:47 AM
To: Blunck, Christopher <Blunck.Chris@epa.gov>
Cc: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Seltzer, Mark <Seltzer.Mark@epa.gov>
Subject: OPPT/OECA Monthly

Hi Chris –

We have our regular monthly on the calendar this Thursday. Mark and I were talking about potentially using that hour to meet with folks in OPPT working on the Chemours 5e Consent Order / hazard assessment. I'm not sure of the availability of staff/management on OPPT's end, but throwing this out there for consideration in lieu of a regular meeting.

James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A

1200 Constitution Ave., NW
Washington, DC 20460
202.564.5161
miles.james@epa.gov

To: Blunck, Christopher[Blunck.Chris@epa.gov]; Henry, Tala[Henry.Tala@epa.gov]; Fehrenbacher, Cathy[Fehrenbacher.Cathy@epa.gov]
From: Vendinello, Lynn
Sent: Wed 4/25/2018 7:09:19 PM
Subject: RE: OPPT/OECA Monthly - looping Tala in on this

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Lynn Vendinello
Acting Division Director
Chemical Control Division
Office of Pollution Prevention and Toxics
US. EPA
202-566-0514

From: Blunck, Christopher
Sent: Wednesday, April 25, 2018 2:55 PM
To: Henry, Tala <Henry.Tala@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>
Subject: RE: OPPT/OECA Monthly - looping Tala in on this

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U.S. Environmental Protection Agency
Phone: 202-564-8078
Fax: 202-564-0575

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Sent: Tuesday, April 24, 2018 6:15 PM
To: Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Blunck, Christopher <Blunck.Chris@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>
Subject: RE: OPPT/OECA Monthly - looping Tala in on this

Deliberative Process / Ex. 5

Tala R. Henry, Ph.D.
Director, Risk Assessment Division
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency

T: 202-564-2959
E: henry.tala@epa.gov

From: Fehrenbacher, Cathy
Sent: Tuesday, April 24, 2018 5:34 PM

To: Blunck, Christopher <Blunck.Chris@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>
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Phone: 202-564-8078
Fax: 202-564-0575

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Sent: Tuesday, April 24, 2018 2:05 PM
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Cc: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>
Subject: RE: OPPT/OECA Monthly

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5

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Sent: Tuesday, April 24, 2018 12:40 PM
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Cc: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Seltzer, Mark <Seltzer.Mark@epa.gov>
Subject: RE: OPPT/OECA Monthly

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Chris Blunck
Special Assistant/Policy Advisor
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Phone: 202-564-8078
Fax: 202-564-0575

From: Miles, James
Sent: Tuesday, April 24, 2018 10:47 AM
To: Blunck, Christopher <Blunck.Chris@epa.gov>
Cc: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Seltzer, Mark <Seltzer.Mark@epa.gov>
Subject: OPPT/OECA Monthly

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James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A
1200 Constitution Ave., NW
Washington, DC 20460
202.564.5161
miles.james@epa.gov

To: Henry, Tala[Henry.Tala@epa.gov]
Cc: Strong, Jamie[Strong.Jamie@epa.gov]
From: Behl, Betsy
Sent: Wed 5/30/2018 10:40:41 PM
Subject: OSCPP comments on GenX
DRAFT AGENCY Tox Assessment for GenX Chemicals_05-14-18_OCSPP OST response v2.docx

Tala,

I have attached above proposed responses to OCSPP comments on the GenX assessment. We probably need to talk more about how to handle the systematic review that you folks have done. Could you take a look at our rationale for the other responses and let me know if you agree? If you don't agree with the responses we should talk about those as well. Friday would be good

Thanks, Betsy

Elizabeth (Betsy) Behl, Director
Health and Ecological Criteria Division, 4304-T
Office of Science and Technology, Office of Water
United States Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington DC 20460

phone: 202.566.0788
room 5233H

To: Henry, Tala[Henry.Tala@epa.gov]
Cc: Strong, Jamie[Strong.Jamie@epa.gov]
From: Flaherty, Colleen
Sent: Tue 5/15/2018 12:02:22 AM
Subject: Fwd: Draft GenX chemicals toxicity values for agency review
GenX PFBS_External Peer Review_Requested expertise and charge questions_5-14-18.docx
ATT00001.htm
DRAFT AGENCY Tox Assessment for GenX Chemicals_05-14-18.docx
ATT00002.htm

Tala, Here it is in MS word. It has already been posted to sharepoint. You should have gotten a link from Tina. Thanks.

Sent from my iPhone

Begin forwarded message:

From: "Flaherty, Colleen" <Flaherty.Colleen@epa.gov>
Date: May 14, 2018 at 4:43:34 PM EDT
To: "Moore, Alexa" <moore.alexa@epa.gov>, "Lambert, Jason" <Lambert.Jason@epa.gov>, "Bahadori, Tina" <Bahadori.Tina@epa.gov>, "Champlin, Anna" <Champlin.Anna@epa.gov>, "Jones, Samantha" <Jones.Samantha@epa.gov>
Cc: "Jamie Strong (Strong.Jamie@epa.gov)" <Strong.Jamie@epa.gov>, "Jacobs, Brittany" <Jacobs.Brittany@epa.gov>, "Miller, Gregory" <Miller.Gregory@epa.gov>
Subject: Draft GenX chemicals toxicity values for agency review

Alexa,

Attached is the draft toxicity values document for GenX chemicals for agency review. Please inform the reviewers that Appendix B is NOT included – we will send it as a separate file as soon as we can. Please let me know if you require anything else. I have also reattached the charge (changed date to today).
Thanks,
Colleen

Colleen M. Flaherty | Associate Director
Health and Ecological Criteria Division
U.S. EPA Office of Water

To: Henry, Tala[Henry.Tala@epa.gov]
Cc: Strong, Jamie[Strong.Jamie@epa.gov]
From: Behl, Betsy
Sent: Tue 6/5/2018 11:05:20 PM
Subject: responses to OCSPP comments
DRAFT AGENCY Tox Assessment for GenX Chemicals_05-14-18_OCSPP OST response 06 06 18.DOCX

Tala, many thanks to you for your follow up with Nancy and others on our responses to OCSPP comments.

Please let us know their responses as soon as you can. We need to send a final forward for peer review the week of 6/18.

Best, Betsy

Elizabeth (Betsy) Behl, Director
Health and Ecological Criteria Division, 4304-T
Office of Science and Technology, Office of Water
United States Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington DC 20460

phone: 202.566.0788
room 5233H

To: Camacho, Iris[Camacho.Iris@epa.gov]; Flaherty, Colleen[Flaherty.Colleen@epa.gov]
Cc: Strong, Jamie[Strong.Jamie@epa.gov]
From: Henry, Tala
Sent: Tue 5/15/2018 1:21:07 PM
Subject: RE: Draft GenX chemicals toxicity values for agency review
DRAFT AGENCY Tox Assessment for GenX Chemicals_05-14-18.docx

Iris, here is the document
See my last email; I believe this document is fine (the reference to App B is already in there.

Tala R. Henry, Ph.D.
Acting Deputy Director
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency

T: 202-564-2959
E: henry.tala@epa.gov

From: Camacho, Iris
Sent: Tuesday, May 15, 2018 9:19 AM
To: Flaherty, Colleen <Flaherty.Colleen@epa.gov>
Cc: Strong, Jamie <Strong.Jamie@epa.gov>; Henry, Tala <Henry.Tala@epa.gov>
Subject: RE: Draft GenX chemicals toxicity values for agency review

Please provide me access to the SharePoint site where the GenX document is stored for commenting. I don't have access. You can also send me a copy of the document if it is easier.

****
Iris A. Camacho, Ph.D.
Branch Chief, Assessment Branch 1
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
William Jefferson Clinton Building East, 6308-A
Washington, DC 20460
Phone: 202-564-1229
Work hours: 8:00 am – 4:30 pm
Personal Phone / Ex. 6
Email: camacho.iris@epa.gov

From: Henry, Tala
Sent: Tuesday, May 15, 2018 9:06 AM
To: Flaherty, Colleen <Flaherty.Colleen@epa.gov>
Cc: Strong, Jamie <Strong.Jamie@epa.gov>; Camacho, Iris <Camacho.Iris@epa.gov>
Subject: RE: Draft GenX chemicals toxicity values for agency review

All,
Iris Camacho is working to put Appendix B together this morning.
I see that the main document already references Appendix B in section 3.3.2 on page 35, so all is good the main document. I do not have strong feeling as to whether App B needs to be integrated into the document or sent as separate attachment…up to you.

However, I will tell you that when Tina sent around the notice yesterday PFBS Tox Value doc WAS attached, but GenX Tox Value doc WAS NOT; she attached the charge accidently.

So…if we could please hold off until Appendix B is done…Tina will resend the notice with GenX also attached in the email; I just spoke to Tina and she will wait to hear from OW.
Whew!

Tala R. Henry, Ph.D.
Acting Deputy Director
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency

T: 202-564-2959
E: henry.tala@epa.gov

From: Flaherty, Colleen
Sent: Monday, May 14, 2018 8:02 PM
To: Henry, Tala <Henry.Tala@epa.gov>
Cc: Strong, Jamie <Strong.Jamie@epa.gov>
Subject: Fwd: Draft GenX chemicals toxicity values for agency review

Tala, Here it is in MS word. It has already been posted to sharepoint. You should have gotten a link from Tina. Thanks.

Sent from my iPhone
Begin forwarded message:

> **From:** "Flaherty, Colleen" <Flaherty.Colleen@epa.gov>
> **Date:** May 14, 2018 at 4:43:34 PM EDT
> **To:** "Moore, Alexa" <moore.alexa@epa.gov>, "Lambert, Jason" <Lambert.Jason@epa.gov>, "Bahadori, Tina" <Bahadori.Tina@epa.gov>, "Champlin, Anna" <Champlin.Anna@epa.gov>, "Jones, Samantha" <Jones.Samantha@epa.gov>
> **Cc:** "Jamie Strong (Strong.Jamie@epa.gov)" <Strong.Jamie@epa.gov>, "Jacobs, Brittany" <Jacobs.Brittany@epa.gov>, "Miller, Gregory" <Miller.Gregory@epa.gov>
> **Subject: Draft GenX chemicals toxicity values for agency review**
>
> Alexa,
>
> Attached is the draft toxicity values document for GenX chemicals for agency review. Please inform the reviewers that Appendix B is NOT included – we will send it as a separate file as soon as we can. Please let me know if you require anything else. I have also reattached the charge (changed date to today).
> Thanks,
> Colleen
>
> Colleen M. Flaherty | Associate Director
> Health and Ecological Criteria Division
> U.S. EPA Office of Water

To: Behl, Betsy[Behl.Betsy@epa.gov]
Cc: Strong, Jamie[Strong.Jamie@epa.gov]
From: Henry, Tala
Sent: Fri 6/1/2018 10:07:06 PM
Subject: RE: OSCPP comments on GenX
DRAFT AGENCY Tox Assessment for GenX Chemicals_05-14-18_OCSPP OST response v2.OPPT Edits_06-01-18.DOCX

Please find attached our edits on these comments.

As I understand there are comments on Appendix B...please sent those along; we had multiple inter-agency reviews on our systematic approach and responded to those comments, so hopefully we can recycle those responses for this purpose too.

Its now 6 pm on Friday and I have not seen the cleaned up Appendix B, which I thought was done; so, will get that to you Monday I guess.

Tala R. Henry, Ph.D.
Acting Deputy Director
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency

T: 202-564-2959
E: henry.tala@epa.gov

From: Behl, Betsy
Sent: Wednesday, May 30, 2018 6:41 PM
To: Henry, Tala <Henry.Tala@epa.gov>
Cc: Strong, Jamie <Strong.Jamie@epa.gov>
Subject: OSCPP comments on GenX

Tala,

I have attached above proposed responses to OCSPP comments on the GenX assessment. We probably need to talk more about how to handle the systematic review that you folks have done. Could you take a look at our rationale for the other responses and let me know if you agree? If you don't agree with the responses we should talk about those as well. Friday would be good

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Elizabeth (Betsy) Behl, Director
Health and Ecological Criteria Division, 4304-T
Office of Science and Technology, Office of Water
United States Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington DC 20460

phone: 202.566.0788
room 5233H

To: Camacho, Iris (Camacho.Iris@epa.gov)[Camacho.Iris@epa.gov]
From: Henry, Tala
Sent: Tue 6/5/2018 12:06:17 PM
Subject: FW: ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
DRAFT AGENCY Tox Assessment for GenX Chemicals_Sec 1 and 2 for OPPT 06-4-18.docx
ORD Gen X consolidated comments for OPPT.DOCX

Tala R. Henry, Ph.D.
Acting Deputy Director
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency

T: 202-564-2959
E: henry.tala@epa.gov

From: Strong, Jamie
Sent: Monday, June 04, 2018 9:41 AM
To: Henry, Tala <Henry.Tala@epa.gov>
Cc: Behl, Betsy <Behl.Betsy@epa.gov>; Jacobs, Brittany <jacobs.brittany@epa.gov>; Miller, Gregory <Miller.Gregory@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>
Subject: FW: ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
Importance: High

Tala,
Attached are comments received from the Agency review on the sections of GenX developed by OPPT. The first document is ORD's consolidated comments (they had a lot and we didn't have time to move over into draft document). The second is the draft document Sections 1-2 with comments from all other program and regions.

No one sent a redline markup of the Appendix B document that was sent out separately. The main thrust of the Appendix B comments was that the content should be better integrated into the main body of the document.

Please provide us with edits by Friday June 8th.

Jamie

Jamie B. Strong | Chief, Human Health Risk Assessment Branch
Health and Ecological Criteria Division | Office of Science and Technology | Office of Water
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW, 4301-T, Washington, DC 20460
☎ Phone: (202) 566-0056 | strong.jamie@epa.gov

Mccamey, Edith

Subject:	Briefing of Regional OCSPP Division Directors on Gen X Situation
Location:	Call in number: Personal Matters / Ex. 6
Start:	Thu 9/7/2017 11:00 AM
End:	Thu 9/7/2017 12:00 PM
Recurrence:	(none)
Meeting Status:	Accepted
Organizer:	DeDora, Caroline
Required Attendees:	Anderson, Kate; Armstead, John A.; Arrazola, Ignacio; Banister, Beverly; Campbell, Dave; Davies, Lauris; Dwyer, Stacey; Filippelli, John; Fite, Mark; Flournoy, Karen; Freeman, Caroline; Garl, Jerri-Anne; Gorman, John; Green, Jamie; Guerriero, Margaret; Hamlin, Tim; Harris, Michael; Hastings, Janis; Kemker, Carol; Klevs, Mardi; Kowalski, Ed; LaPosta, Dore; Libertz, Catherine; Lowery, Brigid; MaGee, Julie; McGuire, Karen; Mitchell, Judy-Ann; Mitchell, Ken; Moore, Audrey; Pratt, Stacie; Price, Lisa; Rea, Kristi; Robichaud, Jeffery; Scott, Jeff; Seager, Cheryl; Smith, John; Stenger, Wren; Studlien, Susan; Taylor, Katherine; Tennessee, Denise; Toney, Anthony; Vargo, Steve; Weber, Rebecca; Winters, Melissa; Wood, MelanieL; Cunningham-HQ, Barbara; Morris, Jeff; Henry, Tala; Doa, Maria; Mottley, Tanya; Shimkin, Martha
Optional Attendees:	Evangelista, Pat; Mindrup, Mary; Huffman, Diane; Maddaloni, Mark; Star, David; Pam Swingle (swingle.pamela@epa.gov); Daphne Wilson; Schulz, Susan; Davis, Lauren O.; Scheifele, Hans; Myrick, Pamela; Harris, Kimberly; Niess, Claudia; Strauss, Linda

Attachments Added.

Updated Agenda attached and below

Gen X Briefing for Regional Director
September 7, 2017 11 AM EST
Call in Number: Personal Matters / Ex. 6

1. Current Status (Carol Kemker)

2. Background (Carol Kemker)
   - How we become aware of Gen X in NC
   - Brief walk through of the processes of concern at the Chemours facility

3. TSCA Investigation (Carol Kemker)

4. OPPT Role and Update (Maria Doa)

5. Communications - internal, state environmental and health agencies, local governments (Carol and Maria)

Gen X Briefing for Regional Director
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1. Current Status (Carol Kemker)

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   - Brief walk through of the processes of concern at the Chemours facility

3. TSCA Investigation (Carol Kemker)

4. OPPT Role and Update (Maria Doa)

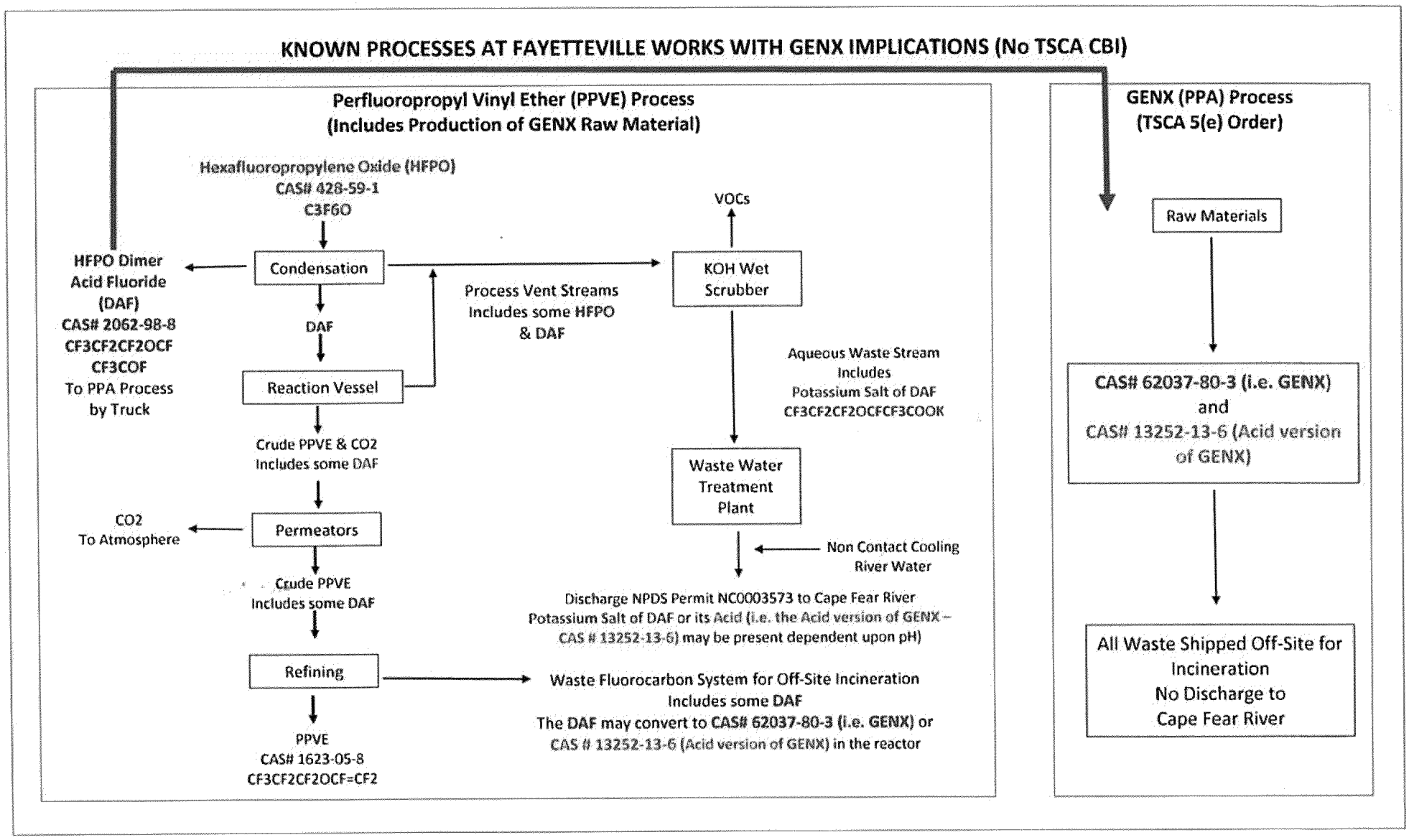
5. Communications - internal, state environmental and health agencies, local governments (Carol and Maria)

6. Where should we be concerned about Gen X (Carol and Maria)

7. Potential for an additional investigation (Carol)

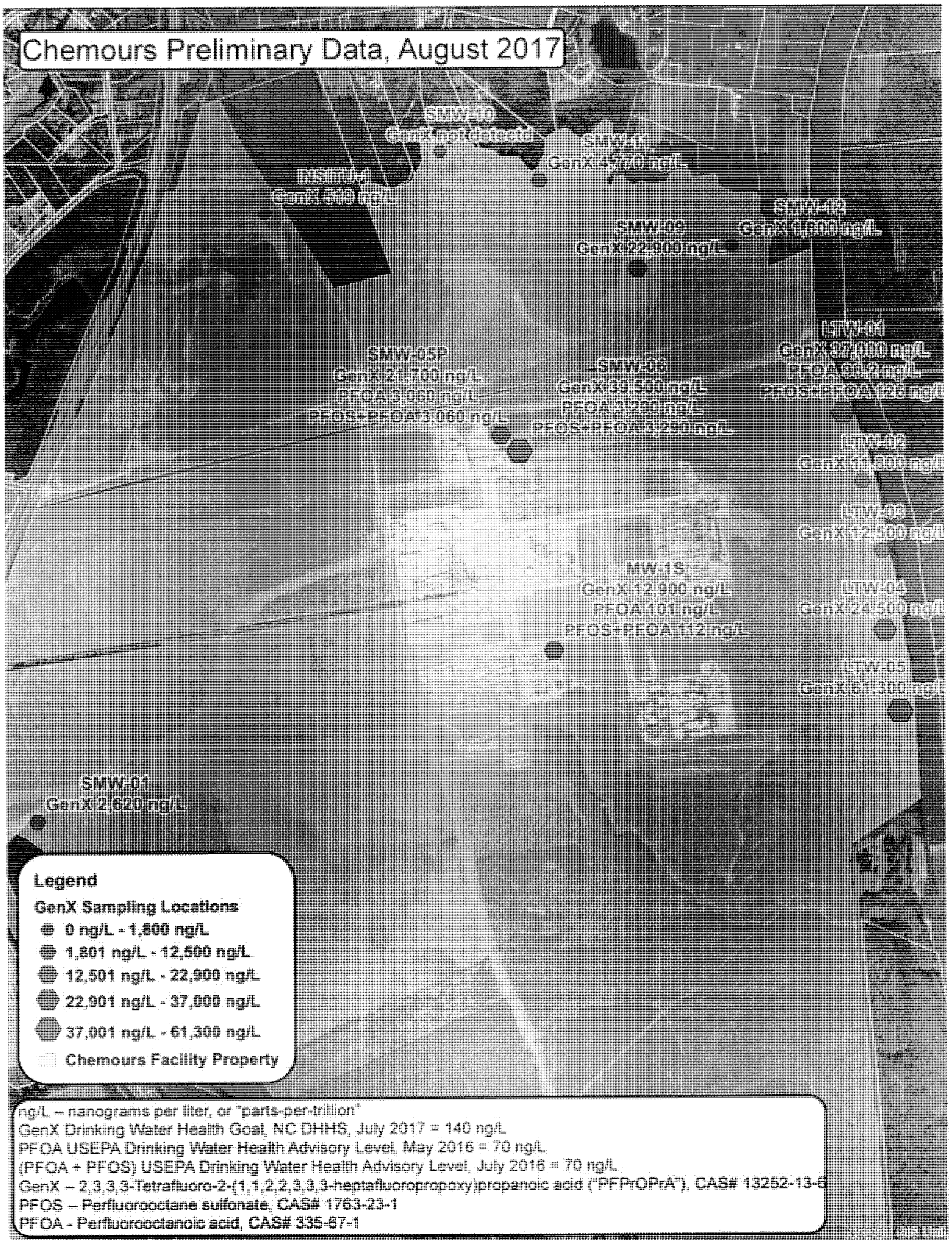
8. Other chemicals of concern and ORD's studies (Maria)

9. Next Steps (Maria Doa and Carol Kemker)



ED_002003G_00064293-00003

Chemours Preliminary Data, August 2017



ng/L – nanograms per liter, or "parts-per-trillion"
GenX Drinking Water Health Goal, NC DHHS, July 2017 = 140 ng/L
PFOA USEPA Drinking Water Health Advisory Level, May 2016 = 70 ng/L
(PFOA + PFOS) USEPA Drinking Water Health Advisory Level, July 2016 = 70 ng/L
GenX – 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)propanoic acid ("PFPrOPrA"), CAS# 13252-13-6
PFOS – Perfluorooctane sulfonate, CAS# 1763-23-1
PFOA - Perfluorooctanoic acid, CAS# 335-67-1

To: Libelo, Laurence[Libelo.Laurence@epa.gov]
From: Strong, Jamie
Sent: Mon 6/4/2018 5:20:42 PM
Subject: FW: ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
DRAFT AGENCY Tox Assessment for GenX Chemicals_Sec 1 and 2 for OPPT 06-4-18.docx
ORD Gen X consolidated comments for OPPT.DOCX

Laurence,
I wanted to send these to you. We got some comments on the sections you authored. I sent these to Tala and Catherine, but thought you might want to take a look (recognizing you are probably very busy in your new position). Please let me know if you have any thoughts or edits.

Thank you,
Jamie

From: Strong, Jamie
Sent: Monday, June 04, 2018 9:41 AM
To: Henry, Tala <Henry.Tala@epa.gov>
Cc: Behl, Betsy <Behl.Betsy@epa.gov>; Jacobs, Brittany <Jacobs.Brittany@epa.gov>; Miller, Gregory <Miller.Gregory@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>
Subject: FW: ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
Importance: High

Tala,
Attached are comments received from the Agency review on the sections of GenX developed by OPPT. The first document is ORD's consolidated comments (they had a lot and we didn't have time to move over into draft document). The second is the draft document Sections 1-2 with comments from all other program and regions.

No one sent a redline markup of the Appendix B document that was sent out separately. The main thrust of the Appendix B comments was that the content should be better integrated into the main body of the document.

Please provide us with edits by Friday June 8th.

Jamie

Jamie B. Strong | Chief, Human Health Risk Assessment Branch
Health and Ecological Criteria Division | Office of Science and Technology | Office of Water
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW, 4301-T, Washington, DC 20460
Phone: (202) 566-0056 | strong.jamie@epa.gov

Organizer: Beauvais, Joel[Beauvais.Joel@epa.gov]

From: Beauvais, Joel[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=088A99C4B0F04E2AA5784349BCCF7B95-BEAUVAIS, JOEL]

Location: 3233 WjCE

Importance: Normal

Subject: Drinking Water Health Advisories for PFOA and PFOS Call in **Personal Phone / Ex. 6**

Start Time: Thur 2/11/2016 8:15:00 PM (UTC)

End Time: Thur 2/11/2016 9:00:00 PM (UTC)

Required Attendees: Southerland, Elizabeth; Behl, Betsy; Strong, Jamie; Donohue, Janice; Flaherty, Colleen; Harper, Ashley; Lalley, Cara; Grevatt, Peter; Burneson, Eric; Rodgers-Jenkins, Crystal; Greene, Ashley; Gilinsky, Ellen

Optional Attendees: Wambaugh, John; Thomas, Russell; Conerly, Octavia; Lape, Jeff; Scozzafava, MichaelE; Cooke, Maryt; Henry, Tala; Libelo, Laurence

Drinking Water Health Advisories for PFOA and PFOS Meeting with Joel Bea....pdf

PFOA-PFOS-OW HAs 02 10 16 final.ppt

To: Miles, James[miles.james@epa.gov]; Hellyer, Yvette[Hellyer.Yvette@epa.gov]
From: Seltzer, Mark
Sent: Wed 4/25/2018 9:26:13 PM
Subject: RE: OPPT/OECA Monthly

Sure—

Pls let me know the PR issue.
Thanks,
Mark

Mark Seltzer, Attorney Advisor
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
US Environmental Protection Agency
Phone: 202-564-2901

From: Miles, James
Sent: Wednesday, April 25, 2018 3:33 PM
To: Hellyer, Yvette <Hellyer.Yvette@epa.gov>
Cc: Seltzer, Mark <Seltzer.Mark@epa.gov>
Subject: FW: OPPT/OECA Monthly

Can you make the meeting for the formaldehyde piece?

From: Blunck, Christopher
Sent: Wednesday, April 25, 2018 3:21 PM
To: Miles, James <miles.james@epa.gov>
Cc: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Winchester, Erik <Winchester.Erik@epa.gov>
Subject: RE: OPPT/OECA Monthly

James -- Bethany Olson and Manuel Ronquillo in CCD are available to address OECA's questions tomorrow at 1 pm.

In addition, Erik Winchester would like to discuss two formaldehyde-related topics:

- OECA/OPPT (and CBP) coordination on formaldehyde import certification
- Potential formaldehyde rule compliance issues in Puerto Rico due to ongoing hurricane impacts

Chris Blunck
Special Assistant/Policy Advisor
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Phone: 202-564-8078
Fax: 202-564-0575

From: Miles, James
Sent: Tuesday, April 24, 2018 2:05 PM

To: Blunck, Christopher <Blunck.Chris@epa.gov>
Cc: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>
Subject: RE: OPPT/OECA Monthly

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Deliberative Process / Ex. 5

From: Blunck, Christopher
Sent: Tuesday, April 24, 2018 12:40 PM
To: Miles, James <miles.james@epa.gov>
Cc: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Seltzer, Mark <Seltzer.Mark@epa.gov>
Subject: RE: OPPT/OECA Monthly

James – I understand you have period calls w/ OPPT on the Chemours 5e Consent Order / hazard assessment work. What more specifically is it that you all would want to discuss at this meeting?

Chris Blunck
Special Assistant/Policy Advisor
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Phone: 202-564-8078
Fax: 202-564-0575

From: Miles, James
Sent: Tuesday, April 24, 2018 10:47 AM
To: Blunck, Christopher <Blunck.Chris@epa.gov>
Cc: Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Seltzer, Mark <Seltzer.Mark@epa.gov>
Subject: OPPT/OECA Monthly

Hi Chris –

We have our regular monthly on the calendar this Thursday. Mark and I were talking about potentially using that hour to meet with folks in OPPT working on the Chemours 5e Consent Order / hazard assessment. I'm not sure of the availability of staff/management on OPPT's end, but throwing this out there for consideration in lieu of a regular meeting.

James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency

William Jefferson Clinton Bldg., South, Rm. 4111A
1200 Constitution Ave., NW
Washington, DC 20460
202.564.5161
miles.james@epa.gov

To: Saenz, Diana[Saenz.Diana@epa.gov]
From: Miles, James
Sent: Thur 6/21/2018 8:00:27 PM
Subject: RE: Can you send briefing materials
Chemours GenX TSCA Inspection Briefing Paper 062118 Revised.docx

I wasn't able to get a polished draft together. Here's the draft, it's been heavily edited by me.

Agenda
Procedural Status

Enforcement/Investigatory / Ex. 7(a)

-----Original Message-----
From: Saenz, Diana
Sent: Thursday, June 21, 2018 3:58 PM
To: Miles, James <miles.james@epa.gov>
Subject: Can you send briefing materials

For Chemours

Thanks

Sent from my iPhone

To: Shinkman, Susan[Shinkman.Susan@epa.gov]
Cc: Miles, James[miles.james@epa.gov]; Sullivan, Greg[Sullivan.Greg@epa.gov]
From: Pollins, Mark[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=591F52A6CC074A2394FB5DDC306C2FD7-MPOLLINS]
Sent: Tue 8/22/2017 4:47:34 PM (UTC)
Subject: FW: GenX - Chemours Authorities Paper
Chemours GenX Authorities Paper 082217 R4 Edits (1).docx

Spoke with Scott. The region's comments came in late.

Mark Pollins, Director
Water Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance (OECA)
U.S. Environmental Protection Agency
Phone: (202) 564-4001
Fax: (202) 564-0018

From: Speir, Jeffrey
Sent: Tuesday, August 22, 2017 12:30 PM
To: Pollins, Mark <Pollins.Mark@epa.gov>; Fergusson, Bruce <Fergusson.Bruce@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>
Subject: RE: GenX - Chemours Authorities Paper

I have attached an updated paper that combines what Susan sent to Larry with what we received from Scott.

Note: Scott's team reviewed a prior version of the document (sent last week) that did not contain edits from WED or the addition of the Enforcement/Investigatory / Ex. 7(a) (on Monday). One comment referred to Enforcement/Investigatory / Ex. 7(a)

Enforcement/Investigatory / Ex. 7(a)

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Pollins, Mark
Sent: Tuesday, August 22, 2017 12:07 PM
To: Fergusson, Bruce <Fergusson.Bruce@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: RE: GenX - Chemours Authorities Paper

Thanks Bruce. I think we can add he edits quickly.

Mark Pollins, Director
Water Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance (OECA)
U.S. Environmental Protection Agency
Phone: (202) 564-4001
Fax: (202) 564-0018

From: Fergusson, Bruce
Sent: Tuesday, August 22, 2017 12:06 PM
To: Pollins, Mark <Pollins.Mark@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: RE: GenX - Chemours Authorities Paper

Hi Mark,
Thanks for forwarding. I spoke with Diana on Friday because I was concerned that the R4 comments on the briefing paper, including the Enforcement/Investigatory / Ex. 7(a) would go to WCED and not us since WCED sent the draft to R4. Diana said she would make sure that any comments they got from the Region would be forwarded to Jeff and me. Looking at the email chain below, I guess that did not happen. I'm going to call James to get the R4 comments on the water sections so we know what they are. Oh well, we tried.
Bruce

Bruce Fergusson
Water Enforcement Division
Office of Enforcement and Compliance Assurance
U.S. EPA
(202) 564-1261

From: Pollins, Mark
Sent: Tuesday, August 22, 2017 11:58 AM
To: Theis, Joseph <Theis.Joseph@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Fergusson, Bruce <Fergusson.Bruce@epa.gov>
Subject: FW: GenX - Chemours Authorities Paper

Mark Pollins, Director
Water Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance (OECA)
U.S. Environmental Protection Agency
Phone: (202) 564-4001
Fax: (202) 564-0018

From: Gordon, Scott
Sent: Tuesday, August 22, 2017 11:46 AM
To: Pollins, Mark <Pollins.Mark@epa.gov>
Cc: Miles, James <miles.james@epa.gov>
Subject: FW: GenX - Chemours Authorities Paper

Mark,

Looks like our edits did not make it into the draft for your meeting today with Larry.

Thanks,
Scott

From: Gordon, Scott
Sent: Monday, August 21, 2017 8:46 AM
To: Miles, James <miles.james@epa.gov>
Subject: RE: GenX - Chemours Authorities Paper

James,

Here are the R4 suggested edits. Please let me know when the next version is ready for discussion. Enforcement/Investigatory / Ex. 7(a) / Deliberative Process /Ex. 5

Enforcement/Investigatory / Ex. 7(a) / Deliberative Process /Ex. 5

Thanks,

Scott

From: Miles, James
Sent: Thursday, August 17, 2017 11:01 AM
To: Gordon, Scott <Gordon.Scott@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Nagle, Deborah <Nagle.Deborah@epa.gov>; Thompkins, Anita <Thompkins.Anita@epa.gov>
Cc: Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Baney, Tony <Baney.Tony@epa.gov>; Seltzer, Mark <Seltzer.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; King, Carol <King.Carol@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>
Subject: GenX - Chemours Authorities Paper

Hi all –

As discussed earlier in the week, please find attached a draft paper discussing the pertinent enforcement and regulatory authorities to respond to the GenX situation. We're especially seeking comments from our program counterparts on the regulatory front.

In terms of timing, our OCE OECA Office Director would like to have a draft by COB Friday. For us to incorporate your comments, we would need them at the latest by **10AM tomorrow**. Apologies for the tight turnaround, but we'll continue to work closely with you even after the draft moves forward.

Please send comments/revisions/questions to Mark Garvey, Greg Sullivan and me.

Thanks in advance!

James Miles, Chief
Chemical Risk and Reporting Enforcement Branch
Waste and Chemical Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
William Jefferson Clinton Bldg., South, Rm. 4111A
1201 Constitution Ave., NW
Washington, DC 20004
202.564.5161
miles.james@epa.gov

To: Davis, Lauren O.[Davis.LaurenO@epa.gov]
Cc: Pratt, Stacie[Pratt.Stacie@epa.gov]; Miles, James[miles.james@epa.gov]
From: schafer, joan
Sent: Thur 4/12/2018 6:13:17 PM
Subject: RE: Chemours Communications Plan April 2018.docx

Thank you, Lauren and Stacie.
joan

Joan T. Schafer, Senior Advisor
U.S. Environmental Protection Agency
Region 3 Office of Communications and Government Relations
1650 Arch Street
Philadelphia, PA 19103
215-814-5143 (ph)
Personal Phone / Ex. 6

From: Davis, Lauren O.
Sent: Thursday, April 12, 2018 2:10 PM
To: schafer, joan <schafer.joan@epa.gov>
Cc: Pratt, Stacie <Pratt.Stacie@epa.gov>; Miles, James <miles.james@epa.gov>
Subject: RE: Chemours Communications Plan April 2018.docx

Hi Joan,

Enforcement/Investigatory / Ex. 7(a)

Lauren O. Davis
Environmental Engineer
Compliance Officer
US EPA Region III
Land and Chemicals Division
Toxics Programs Branch
1650 Arch Street
Philadelphia, PA 19103
(w):215-814-2169
davis.laureno@epa.gov

From: Pratt, Stacie
Sent: Thursday, April 12, 2018 9:23 AM
To: Davis, Lauren O. <Davis.LaurenO@epa.gov>
Subject: FW: Plan April 2018.docx

Hi Lauren – Can you help me out with this one?

Thank you!

From: rogers, rick

Sent: Thursday, April 12, 2018 9:22 AM
To: schafer, joan <schafer.joan@epa.gov>
Cc: daw, harry <daw.harry@epa.gov>; Pratt, Stacie <Pratt.Stacie@epa.gov>
Subject: Re: Plan April 2018.docx

That question will have to be answered by LCD. I am copying Harry and Stacie to answer that question. It may be that it is better to remove the statement related to the TSCA order, but I will leave it up to LCD to decide.

Sent from my iPhone
On Apr 12, 2018, at 9:09 AM, schafer, joan <schafer.joan@epa.gov> wrote:

Enforcement/Investigatory / Ex. 7(a)

Please let me know your thoughts --
Thanks...joan

From: Fields, Jenifer
Sent: Thursday, April 12, 2018 8:45 AM
To: schafer, joan <schafer.joan@epa.gov>
Subject: Chemours Communications Plan April 2018.docx

Enforcement/Investigatory / Ex. 7(a)

Mann

SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 919-967-1450

601 WEST ROSEMARY STREET, SUITE 220
CHAPEL HILL, NC 27516-2356

Facsimile 919-929-9421

May 7, 2018

Via U.S. Certified Mail – Return Receipt Requested

Ellis H. McGaughy
Fayetteville Works Plant Manager
The Chemours Company FC, LLC
22828 N.C. Highway 87 West
Fayetteville, N.C. 28306-7332

The Chemours Company PC, LLC
c/o CT Corporation System, Registered Agent
160 Mine Lake Court, Suite 200
Raleigh, N.C. 27615-6417

E.I. du Font de Nemours and Company
c/o CT Corporation System, Registered Agent
160 Mine Lake Court, Suite 200
Raleigh, N.C. 27615-6417

Administrator E. Scott Pruitt
U.S. Environmental Protection Agency
Office of the Administrator
Mail Code 1101A
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Trey Glenn
Region 4 Administrator
U.S. Environmental Protection Agency
61 Forsyth Street, S.W.
Mail Code 9T25
Atlanta, GA 30303-8960

Jeff Sessions
U.S. Attorney General
U.S. Department of Justice
950 Pennsylvania Avenue, N.W.
Washington, D.C. 20530-0001

Michael S. Regan
Secretary
N.C. Department of Environmental Quality
1601 Mail Service Center
Raleigh, N.C. 27699-1601

18 MAY 21 AM 10:42

Notice of Intent to Sue
Toxic Substances Control Act - 15 U.S.C. § 2619

RE: 60-Day Notice of Intent to Sue
Fayetteville Works Facility
Violation of Toxic Substances Control Act Consent Order for P-08-508 and P-08-509

To Whom It May Concern:

Pursuant to 15 U.S.C. § 2619 of the Toxic Substances Control Act ("TSCA"), the Cape Fear River Watch, through its undersigned counsel, provides notice of the violation of the U.S.

Environmental Protection Agency's ("EPA") consent order for the chemicals with TSCA Pre-manufacture Notice Numbers P-08-508 and P-08-509, as set forth below.[1] After the expiration of sixty days, the Cape Fear River Watch intends to bring suit for these violations pursuant to the citizen suit provision of the Toxic Substances Control Act, 15 U.S.C. § 2619.

I. Background

A. The Fayetteville Works Facility

The Fayetteville Works Facility, located at 22828 N.C. Highway 87 W., Fayetteville, North Carolina is currently owned and operated by Chemours Company FC, LLC ("Chemours"). From approximately 1971 until 2015, the facility was owned and operated by E.I. du Pont de Nemours and Company ("DuPont"). Chemours and DuPont[2] (collectively, "the companies") have knowingly polluted North Carolina's air, ground and surface waters, and soil with toxic GenX compounds, in violation of the companies' TSCA Consent Order, for nearly four decades.

The Fayetteville Works facility has five manufacturing areas:

1. Fluoromonomers/Nafion Membrane Manufacturing Area (hereinafter "Nafion Membrane Manufacturing Area") (operated by Chemours);[3]
2. Polymer Processing Aid ("PPA") Manufacturing Area (operated by Chemours);
3. Butacite Manufacturing Area (operated by Kuraray America Inc. and rented from Chemours);
4. SentryGlas Manufacturing Area (operated by Kuraray America Inc. and rented from Chemours); and
5. Polyvinyl Fluoride Manufacturing Area (operated by DuPont and rented from Chemours).[4]

Chemours' Fluoromonomers/Nafion Membrane Manufacturing Area produces, among other materials, fluorochemical products and components of the films and coatings used for electrochemical applications.[5] Chemours' PPA Manufacturing area produces a polymer processing aid known as GenX (also known as C3 Dimer Acid and HFPO Dimer Acid, and has a Chemical Abstracts Registry[6] ("CAS") number of 13252-13-6).[7]

---

[1] All attachments have been provided on enclosed compact discs.
[2] E.I. du Pont de Nemours and Company owned and operated the Fayetteville Works facility from the 1970s until the company formed Chemours Company FC, LLC, and transferred ownership to Chemours in 2015. Amended Complaint, N.C. Dept. of Environmental Quality v. Chemours, 17 CVS 580, 14 (N.C. Super. 2018) (hereinafter "N.C. DEQ Amended Complaint"), included as Attachment 1.
[3] The N.C. Department of Environmental Quality also refers to this manufacturing area as the "Vinyl Ethers North process area." N.C. DEQ Amended Complaint at 15; N.C. DEQ, N.C. Division of Air Quality, Letter to Chemours, "60-Day Notice of Intent to Modify Air Quality Permit No. 03735T43, Apr. 6, 2018, 2 (hereinafter "N.C. DAQ 60-Day NOI"), included as Attachment 2.
[4] Chemours NPDES Permit Renewal Application, Supplemental Information – Current Facility Operating Conditions, Apr. 27, 2016 (hereinafter "Chemours NPDES Application"), included as Attachment 3.
[5] *Id.*
[6] CAS numbers are universally used to provide a unique identifier for chemical substances.
[7] Chemours NPDES Application; N.C. DEQ Amended Complaint at 14-15.

ED_002003G_00074319-00002

Both the PPA and the Nafion Membrane Manufacturing Areas release air emissions containing GenX, as well as two other closely related compounds which both convert to GenX in the presence of water:

- HFPO Dimer Acid Fluoride (also known as C3 Dimer Acid Fluoride), which has a CAS number of 2062-98-8, and
- HFPO Dimer Acid Ammonium Salt (also known as C3 Dimer Acid Ammonium Salt), which has a CAS number of 62037-80-3.[8]

Chemours has determined that the stack from its Nafion Membrane Manufacturing Area releases 1,257 pounds of GenX compounds per year, and the stack from its PPA Manufacturing Area releases 670 pounds per year.[9] The company also estimated that leaks from the facility cause about 314 pounds of GenX compounds to be released.[10] In total, the company reported that it emits GenX compounds at a rate of 2,758 pounds per year.[11]

B. EPA's Toxic Substances Control Act consent order

Under Section 5 of the TSCA, no person may manufacture or import a "new chemical substance" or manufacture or process any chemical substance for "a significant new use" unless (1) pre-manufacture notice is filed with the EPA, (2) the EPA reviews the notice, and (3) the EPA makes a determination of the human health and environmental risks of the chemical.[12] Pre-manufacture notice submitted to the EPA must include data on the health and ecological effects of the chemical substance, including "all test data in the submitter's possession or control," as well as data "that are known to or reasonably ascertainable by the submitter."[13]

If EPA determines that there is insufficient information about the chemical substance,[14] the EPA "shall issue an order [...] to prohibit or limit the manufacture, processing, distribution in

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[8] N.C. DAQ 60-Day NOI at 3.

[9] N.C. DAQ 60-Day NOI at 2.These estimates have likely changed. DEQ reported in its amended complaint that Chemours emits a total of 2,241 pounds of GenX compounds each year. On April 26, 2018, DEQ updated that number to 2,758 pounds per year. N.C. DEQ Presentation to the House Select Committee on North Carolina River Quality, slide 15, Apr. 26, 2018 (hereinafter "N.C. DEQ Apr. 26 Presentation"), included as Attachment 4.

[10] N.C. DAQ 60-Day NOI at 2.

[11] N.C. DEQ Apr. 26 Presentation at slide 15; N.C. DEQ Amended Complaint at 28; N.C. DAQ 60-Day NOI at 2.

[12] 15 U.S.C. § 2604.

[13] 40 C.F.R. § 720.50.

[14] The full text of 15 U.S.C. § 2604(e)(1)(A), as amended in 2016 states that the EPA "shall issue an order" if it determines that:

(i) the information available to the Administrator is insufficient to permit a reasoned evaluation of the health and environmental effects of a chemical substance with respect to which notice is required by subsection (a); or

(ii)(I) in the absence of sufficient information to permit the Administrator to make such an evaluation, the manufacture, processing, distribution in commerce, use, or disposal of such substance, or any combination of such activities, may present an unreasonable risk of injury to health or the environment, without consideration of costs or other nonrisk factors, including an unreasonable risk to a potentially exposed subpopulation identified as relevant by the Administrator under the conditions of use; or

(II) such substance is or will be produced in substantial quantities, and such substance either enters or may reasonably be anticipated to enter the environment in substantial quantities or there is or may be significant or substantial human exposure to the substance.

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commerce, use, or disposal of such substance or to prohibit or limit any combination of such activities to the extent necessary to protect against an unreasonable risk of injury to health or the environment..."[15] The statute states that "the submitter of the notice may commence manufacture of the chemical substance, or manufacture or processing of the chemical substance for a significant new use, including while any required information is being developed, *only in compliance with the order*."[16] 15 U.S.C. §2614 further states that "[i]t shall be unlawful for any person to fail or refuse to comply with any [...] order issued" under Section 5 of TSCA, and 15 U.S.C. §2615 provides for both civil and criminal penalties for violations of orders issued under Section 5.

DuPont filed pre-manufacture notices for two GenX compounds:

- P-08-508- Perfluorinated aliphatic carboxylic acid, or "GenX," or HFPO Dimer Acid (CAS Number 13252-13-6) and
- P-08- 509- Perfluorinated Aliphatic Carboxylic Acid, Ammonium Salt, or HFPO Dimer Acid Ammonium Salt (CAS Number 62037-80-3).[17]

The EPA reviewed data submitted by DuPont on these two chemicals and voiced concerns that they would "persist in the environment" and that they "could bioaccumulate, and be toxic [...] to people, wild mammals, and birds."[18] The EPA described "human health concerns" for the chemicals because they "are expected to be absorbed by all routes of exposure" and GenX, in particular, "is expected to be highly irritating or corrosive."[19] Animal studies showed decreases in red blood cell counts, hemoglobin, and hematocrit, as well as increases in liver weights, and effects on kidneys.[20] The company's toxicity studies also showed "systemic toxicity in animals."[21]

Finding that DuPont was missing key toxicological studies, such as information on chronic and carcinogenic effects,[22] EPA stated that "more information is needed on the toxicity and pharmacokinetics" of GenX—particularly given that GenX would likely "be used as a major substitute" for perfluorooctanoic acid ("PFOA"),[23] which has been found to cause developmental effects to fetuses and infants, kidney and testicular cancer, liver malfunction, hypothyroidism, high cholesterol, ulcerative colitis, lower birth weight and size, obesity, decreased immune response to vaccines, and reduced hormone levels and delayed puberty.[24] The consent order

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[15] 15 U.S.C. § 2604(e)(1)(A).
[16] *Id.*
[17] EPA, Consent Order and Determinations Supporting Consent Order for PMN Substances P-08-508 and P-08-509, v (2009) (hereinafter "TSCA Consent Order"), included as Attachment 5; Chemical substance identities were also confirmed with EPA TSCA chemical substance tracking site, Entries for P-08-508 and P-08-509, EPA ChemView site, *available at* https://chemview.epa.gov/chemview (last visited Apr. 16, 2018).
[18] TSCA Consent Order at vii.
[19] *Id* at vii.
[20] *Id* at vii.
[21] *Id* at ix.
[22] *Id* at ix.
[23] *Id* at x-xi.
[24] The Madrid Statement on Poly- and Perfluoroalkyl Substances (PFASs), A 107 (May 2015, included as Attachment 6; *see also* EPA, Health Effects Support Document for Perfluorooctanoic Acid (PFOA) (2016), included

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further stated that the substances are expected "to be highly persistent in the environment," and that "there is high concern for possible environmental effects over the long-term."[25]

Ultimately, pursuant to Section 5(e)(1)(A)(i) of TSCA, the EPA determined "that the information available to the Agency is insufficient to permit a reasoned evaluation of the human health and environmental effects of the [pre-manufacture notice] substances."[26] The consent order continues, "[i]n light of the potential risk of human health and environmental effects [...], EPA has concluded:

- that uncontrolled manufacture, import, processing, distribution in commerce, use and disposal of the [pre-manufacture notice] substances may present an unreasonable risk of injury to human health and the environment," [27] and
- "that the [pre-manufacture notice] substances will be produced in substantial quantities [...], may be reasonably anticipated to enter the environment in substantial quantities [..], and there may be significant (or substantial human exposure to the substances."[28]

The consent order therefore requires the company to:

> recover and capture (destroy) or recycle the [pre-manufacture notice] substances at an overall efficiency of 99% from all the effluent process streams and the air emissions (point source and fugitive).[29]

Although DuPont has since submitted multiple studies to the EPA on the two chemicals since EPA issued the consent order, the EPA has not modified the Order with based on the studies submitted.[30] When DuPont transferred ownership of the Fayetteville Works Facility to Chemours in 2015, Chemours became responsible for complying with the DuPont's consent order with the EPA.[31]

II. Chemours is in violation of its TSCA Consent Order with the EPA

Chemours is releasing GenX compounds, which include GenX, HFPO Dimer Acid Ammonium Salt, and HFPO Dimer Acid Fluoride, from at least two point sources—the Division stack from the Nafion Membrane Manufacturing Area and the PPA stack from the PPA Manufacturing Area without the controls required by the consent order. Based on testing the

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as Attachment 7; EPA, Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA) (2016), included as Attachment 8.

[25] TSCA Consent Order at vii, xi, xii.

[26] *Id.* at xv.

[27] *Id.*

[28] *Id.*

[29] *Id.* at 36.

[30] Entries for P-08-508 and P-08-509, EPA ChemView, *available at* https://chemview.epa.gov/chemview (last visited Apr. 16, 2018).

[31] TSCA Consent Order at 43 ("If the transfer from the Company to the Successor in Interest is effective after EPA receives a NOC, the Successor in Interest shall comply with the terms of this Order...").

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company conducted from January 22-25, 2018, Chemours determined that its stack from its Nafion Membrane Manufacturing Area releases 1,257 pounds of GenX compounds per year, and that its stack from its PPA Manufacturing Area releases 670 pounds per year.[32]

Chemours is also releasing fugitive air emissions in violation of its consent order. Chemours has also estimated that simply the leaks from pumps, valves, and connectors located on the facility cause 314 pounds of GenX compounds to be emitted into the air each year.[33] Chemours has also caused large leaks of air emissions from its stacks. On October 6, 2017, Chemours concealed an air emissions leak that lasted 13 hours, containing 125 pounds of GenX compounds.[34]

In total, Chemours estimates that it releases GenX compounds at a rate of 2,758 pounds per year.[35] Chemours has failed, and continues to fail, to "recover and capture (destroy) or recycle" its GenX, or HFPO Dimer Acid, and HFPO Dimer Acid Ammonium Salt air emissions "at an overall efficiency of 99%" in violation of its TSCA consent order.

III. Chemours' violations are causing imminent danger to human health and safety

Chemours' emissions of GenX and other perfluoroalkyl and polyfluoroalkyl substances compounds (collectively, "PFAS compounds") have caused, and continue to cause, extensive toxic contamination of the air, surface and groundwaters, sediment, and even honey. As the North Carolina Department of Environmental Quality has stated,

> It is now evident that a primary source of surface water and groundwater contamination in and around the Fayetteville Works facility is Chemours' ongoing emissions of GenX and related compounds into the atmosphere and the deposition of those compounds onto the land and waters of the State.[36]

GenX has been found in at least 690 private wells up to 5.5 miles away from the facility's border, in levels as high as 4,000 ppt.[37] Groundwater sampled at the site of the facility has contained concentrations of GenX up to 640,000 parts per trillion.[38]

Studies conducted by DuPont and others since issuance of the consent order indicate toxicity for humans. For instance, DuPont conducted such a 2-year Chronic Toxicity/Carcinogenicity study and found the following effects in rats:

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[32] N.C. DAQ 60-Day NOI at 2. These estimates have likely changed. DEQ reported in its amended complaint that Chemours emits a total of 2,241 pounds of GenX compounds each year. On April 26, 2018, DEQ updated that number to 2,758 pounds per year. N.C. DEQ Apr. 26 Presentation at slide 15.

[33] Chemours Letter to N.C. DEQ, "Chemours – Fayetteville Works – Emissions Test Report," 2, Mar. 12, 2018, included as Attachment 9.

[34] DEQ Press Release, "DEQ investigating air emissions leak at Chemours," Nov. 17, 2017, included as Attachment 10.

[35] N.C. DEQ Apr. 26 Presentation at slide 15; N.C. DAQ 60-Day NOI at 2; N.C. DEQ Amended Complaint at 28.

[36] N.C. DEQ Amended Complaint at 3.

[37] N.C. DEQ Apr. 26 Presentation at slides 9-10.

[38] N.C. DEQ Amended Complaint at 10-22, 24-25.

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- Livers exhibited severe liver damage via degeneration and necrosis (cell death),
- Kidneys exhibited papillary necrosis (acute cell death) and chronic progressive nephropathy (chronic progressive degradation of kidney functions),
- Uteri exhibited stromal polyps (cell tumors),
- Stomachs exhibited non-glandular mucosal hyperplasia (increased cellular growth),
- Pancreases exhibited acinar cell tumors and equivocal acinar cell hyperplasia (increased cellular growth),
- Testes exhibited interstitial cell tumors and hyperplasia (increased cellular growth),
- Lungs exhibited histiocytosis (chronic scarring of lung tissue),
- Tongues exhibited mucosal hyperplasia/inflammation (increased cellular growth).[39]

The hyperplasia, or increased cellular growth, that DuPont found in many of the organs is a known precursor to cancer.[40] Necrosis, which was found in both livers and kidneys, is the irreversible death of cells that happens when there is severe damage to cell membranes so that the contents of the cells leak out and the cell itself is ultimately dissolved.[41] Tellingly, the EPA did not modify its 2009 TSCA Consent Order with DuPont based on the studies that the company submitted.[42]

Numerous studies have been conducted that also indicate GenX, and similar PFAS alternatives with shorter carbon chains, are dangerous to human health and safety.[43] The California Department of Toxic Substances Control reviewed recent

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[39] DuPont and Chemours' TSCA filing to EPA, "8EHQ-06- 1643 6/8EHQ-06- 16478," Jan. 8, 2013, included as Attachment 11.

[40] "[I]n many cases pathologic hyperplasia constitutes a fertile soil in which cancers may eventually arise. For example, patients with hyperplasia of the endometrium are at increased risk of developing endometrial cancer." Excerpt explaining "hyperplasia" from Vinay Kumar et al., Robbins basic pathology (9th ed. 2013), included as Attachment 12.

[41] "Necrosis is the type of cell death that is associated with loss of membrane integrity and leakage of cellular contents culminating in dissolution of cells, largely resulting from the degradative action of enzymes on lethally injured cells." Excerpt explaining "necrosis" from Vinay Kumar et al., Robbins basic pathology (9th ed. 2013), included as Attachment 13.

[42] Entries for P-08-508 and P-08-509, EPA ChemView, *available at* https://chemview.epa.gov/chemview (last visited Apr. 16, 2018).

[43] *See* Melisa Gomis et al., "Comparing the toxic potency in vivo of long-chain perfluoroalkyl acids and fluorinated alternatives," 113 *Environ. International* 1 (2018), included as Attachment 14; Gloria Post et al., "Key scientific issues in developing drinking water guidelines for perfluoroalkyl acids: Contaminants of emerging concern," 15 *PLoS Biol* e2002855 (2017), included as Attachment 15; Melissa Gomis, "From emission sources to human tissues: modelling the exposure to per- and polyfluoroalkyl substances," (2017), included as Attachment 16; Nan Sheng et al., "Cytotoxicity of novel fluorinated alternatives to long chain," 92 *Archives of Toxicol.* 359 (2017), included as Attachment 17; Melisa Gomis et al., "A modeling assessment of the physicochemical properties and environmental fate of emerging and novel per- and polyfluoroalkyl substances," 505 *Sci. of the Total Environ.* 981 (2014), included as Attachment 18; J.M. Rae et al., "Evaluation of chronic toxicity and carcinogenicity of ammonium 2,3,3,3-

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scientific literature on such compounds and found that they, in particular GenX, are likely more toxic than the compounds they are replacing:

> PFECAs and shorter-chain PFAAs may have *similar or higher toxic potency* than the longer-chain PFAAs they are replacing. Using a toxicokinetic model and existing toxicity data sets, a recent study found that PFBA, PFHxA, and PFOA have the same potency to induce increased liver weight, *whereas GenX is more potent*. The authors concluded that previous findings of lower toxicity of fluorinated alternatives in rats were primarily due to the faster elimination rates and lower distribution to the liver compared to PFOA and other longer-chain PFAAs.[44]

Accordingly, GenX and similar short-chain PFAS compounds could be as harmful, if not more harmful, than the compounds they were created to replace.

Aware of the human health risks of GenX, the North Carolina Department of Health and Human Services has issued a health goal of 140 parts per trillion for the chemical.[45] Although the agency's establishment of a health goal validates the threat that GenX poses to public health and safety, compliance with the health goal does not ensure protection of the public, as the agency determined the health goal before many key studies on the human health risks of short-chain compounds had been published.[46]

IV. Persons responsible for violations

The Fayetteville Works Facility is owned and operated by Chemours Company FC, LLC. Chemours Company FC, LLC is a Delaware limited liability company registered and doing business in North Carolina. Chemours Company FC, LLC is responsible for all violations at the Fayetteville Works Facility.

V. Persons giving notice

Cape Fear River Watch is a § 501(c)(3) nonprofit public interest organization headquartered in Wilmington, North Carolina that engages residents of the Cape Fear watershed through programs to preserve and safeguard the river. The organization has 1,100 members, including members who live near, drink water from, and fish, swim, and boat on the Cape Fear River downstream of the Chemours facility. Cape Fear River Watch's mission is "to protect and improve the water quality of the Lower Cape Fear River Basin through education, advocacy and action." In order to fulfill that mission, the organization works to protect the entire river from

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tetrafluoro-2-(heptafluoropropoxy)-propanoate in SpragueDawley rats," 2 *Toxicol. Rep.* 939 (2015), included as Attachment 19.

[44] California Department of Toxic Substances Control, "Product – Chemical Profile for Perfluoroalkyl and Polyfluoroalkyl Substances (PFASs) in Carpets and Rugs" 29 (2018) (emphasis added), included as Attachment 20.

[45] N.C. DHHS, "Questions and Answers Regarding North Carolina Department of Health and Human Services Updated Risk Assessment for GenX (Perfluoro-2-propoxypropanoic acid)," July 14, 2017, included as Attachment 21.

[46] N.C. DHHS published its GenX health goal of 140 ppt on July 14, 2017. *Id.* Numerous studies on short-chain PFAS alternatives were published after that date. *See* supra note 43.

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pollution, including toxic chemicals, such as the GenX compounds that have been released from the Fayetteville Works Facility for decades, and continue to be pumped into the environment at alarming rates.

The names, addresses, and phone numbers of the persons giving notice are:

Kemp Burdette
Cape Fear Riverkeeper
Cape Fear River Watch
617 Surry St.
Wilmington, N.C. 28401
Phone: (910) 762-5606

If you have any questions concerning this letter or the described violations, or if you believe this notice is incorrect in any respect, please contact the undersigned counsel, the Southern Environmental Law Center, at (919) 967-1450 (tel.), (919) 929-9421 (fax). During the notice period, we are available to discuss this matter with you, but suggest if you desire to institute negotiations in lieu of a civil action that you do so immediately as we do not intend to delay prosecution of this suit once the notice period has expired. Please be advised that the failure to remedy any of the violations set forth in this letter can result in a court order enjoining further violations and imposing civil penalties of $37,500 per violation, per day for each violation of the Toxic Substances Control Act.[47] In addition, upon the successful prosecution of this suit, the Cape Fear River Watch to seek compensation for attorneys' fees and the costs of litigation under the citizen suit provisions of the Toxic Substances Control Act.[48]

[47] 15 U.S.C. § 2615.
[48] 15 U.S.C. § 2619.

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Thank you for your prompt attention to this matter.

Sincerely,

Geoff Gisler
ggisler@selcnc.org

Jean Zhuang
jzhuang@selcnc.org

SOUTHERN ENVIRONMENTAL LAW CENTER
601 W. Rosemary Street, Suite 220
Chapel Hill, NC 27516
919-967-1450

Enclosures – compact disc
Cc (*Via electronic mail, without attachments*):
Kemp Burdette, Cape Fear River Watch

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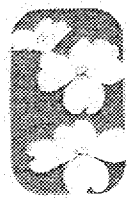
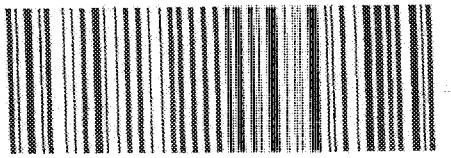
CERTIFIED MAIL



Southern
Environmental
Law Center

601 West Rosemary Street, Suite 220
Chapel Hill, NC 27516-2356



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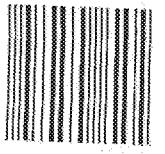

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Jeff Sessions
U.S. Attorney General
U.S. Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530-0001

RETURN RECEIPT

ED_002003G_00074319-00011

To: Seltzer, Mark[Seltzer.Mark@epa.gov]
From: Miles, James
Sent: Mon 1/8/2018 3:10:19 PM
Subject: FW: Chemours Letter Current Comms
Chemours GenX ltfinal.docx
ATT00001.htm

From: King, Carol
Sent: Monday, January 08, 2018 9:14 AM
To: Miles, James <miles.james@epa.gov>
Cc: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: Chemours Letter Current Comms

I hit send too soon before adding you.

From: King, Carol
Sent: Monday, January 08, 2018 9:13 AM
To: Speir, Jeffrey <speir.jeffrey@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Denton, Loren <denton.loren@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>
Subject: FW: Chemours Letter Current Comms

My email crossed with John's on Friday. I flagged this for him, but didn't hear back. So the version John sent up around 5:25 pm on 1/5 did not yet include WED's edits for the internal Qs and As, which I had emailed him separately around 5:35 pm. For instance, WED had proposed striking the "discharge" language in the first two sentences in the fourth Q and A.

From: Senn, John
Sent: Friday, January 05, 2018 5:25 PM
To: Starfield, Lawrence <Starfield.Lawrence@epa.gov>; Traylor, Patrick <traylor.patrick@epa.gov>; Hull, George <Hull.George@epa.gov>; Bodine, Susan <bodine.susan@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; King, Carol <King.Carol@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: Fwd: Chemours Letter Current Comms

Here's the current version of the letter that will go to Chemours early next week along with the comms strategy, revised desk statement and internal QAs in case we get press inquiries. WED folks are already reviewing the QA on the order but it looks like the region or OW made a small tweak to that since yesterday.

Lee has reviewed and is supportive of this rollout.

Please let me know if anyone has additional edits to any of the below or wants to connect on this.
John
Sent from my iPhone

Begin forwarded message:

> **From:** "Drinkard, Andrea" <Drinkard.Andrea@epa.gov>
> **Date:** January 5, 2018 at 3:31:59 PM EST
> **To:** "Forsgren, Lee" <Forsgren.Lee@epa.gov>, "Grevatt, Peter" <Grevatt.Peter@epa.gov>, "Grantham, Nancy" <Grantham.Nancy@epa.gov>, "Mclain, Jennifer" <Mclain.Jennifer@epa.gov>
> **Cc:** "schafer, joan" <schafer.joan@epa.gov>, "Wadlington, Christina" <Wadlington.Christina@epa.gov>, "Senn, John" <Senn.John@epa.gov>, "Hull, George" <Hull.George@epa.gov>, "Mattas-Curry, Lahne" <Mattas-Curry.Lahne@epa.gov>, "Klasen, Matthew" <Klasen.Matthew@epa.gov>
> **Subject: Chemours Letter Current Comms**
>
> Hi all—

Here's where we currently stand on the Chemours Letter roll-out. I accepted the comments from OGWDW and R3 on the statement and the Q&As, but please note that OECA is still reviewing the last Q&A so I've highlighted our edits in yellow and left the language in red so you know that it's not finalized. Please let me know if you're ok with this approach and/or any last minute edits. Nancy will run this through OPA and we can flag for Mike Flynn after we've finalized the materials and the plan.

Lahne, would you flag for Tom and your folks as appropriate?

Matt, I'm still tracking down a response to the question you raised with me last night.

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Andrea Drinkard
Communications Director
EPA Office of Water
Desk: 202.564.1601
Cell: Personal Phone / Ex. 6

Bcc: Miles, James[miles.james@epa.gov]
To: Sullivan, Greg[Sullivan.Greg@epa.gov]; Saenz, Diana[Saenz.Diana@epa.gov]
From: Miles, James
Sent: Thur 10/19/2017 10:32:19 PM
Subject: Fwd: Enforcement/Investigatory / Ex. 7(a)

Sorry just getting around to this now. Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5
Enforcement/Investigatory / Ex. 7(a)

Sent from my iPhone

Begin forwarded message:

From: "Garvey, Mark" <Garvey.Mark@epa.gov>
Date: October 19, 2017 at 11:51:08 AM EDT
To: "Miles, James" <miles.james@epa.gov>
Cc: "Libelo, Laurence" <Libelo.Laurence@epa.gov>, "Lindstrom, Andrew" <Lindstrom.Andrew@epa.gov>, "Strynar, Mark" <Strynar.Mark@epa.gov>, "Speir, Jeffrey" <speir.jeffrey@epa.gov>
Subject: FW: Enforcement/Investigatory / Ex. 7(a)

Enforcement/Investigatory / Ex. 7(a)

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Tucker, Marlene
Sent: Thursday, October 19, 2017 9:45 AM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: FW: data requested

Mark,

Enforcement/Investigatory / Ex. 7(a)

Regards

Marlene Tucker

From: Bookman, Robert
Sent: Wednesday, October 18, 2017 11:55 AM
To: Tucker, Marlene <Tucker.Marlene@epa.gov>
Subject: FW: data requested

Marlene, FYI.

Robert

From: Allenbach, Becky
Sent: Wednesday, October 18, 2017 11:50 AM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>
Cc: Doa, Maria <Doa.Maria@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>
Subject: Re: data requested

Enforcement/Investigatory / Ex. 7(a)

Becky B. Allenbach, Chief
Grants and Drinking Water Protection Branch
Water Protection Division - Region 4
404-562-9687

On Oct 18, 2017, at 11:45 AM, Mitchell, Ken <Mitchell.Ken@epa.gov> wrote:

> Maria...please find attached air emission data requested by NC and provided by Chemours. Please let us know if you have any questions.

Kenneth L. Mitchell, Ph.D. | Special Assistant to the Director |
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303
Voice: 404-562-9065 | Fax: 404-562-9066 | Email: mitchell.ken@epa.gov

NOTICE: This communication may contain privileged or other confidential information. If you are not the intended recipient, or believe that you have received this communication in error, please do not print, copy, retransmit, disseminate, or otherwise use the information. Also, please indicate to the sender that you have received this communication in error, and delete the copy you received.

From: Allenbach, Becky
Sent: Tuesday, October 17, 2017 7:30 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: FW: data requested

Carol and Ken:

Enforcement/Investigatory / Ex. 7(a)

Becky

Becky B. Allenbach, Chief
Grants and Drinking Water Protection Branch
Water Protection Division
EPA Region 4 - Atlanta
Office: 404-562-9687
Cell: **Personal Phone / Ex. 6**

CONFIDENTIALITY NOTICE: This message is intended exclusively for the individual(s) or entity(s) to whom or to which it is addressed. This communication may contain information that is proprietary, privileged, pre-decisional, confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it. If you have received this message in error, please notify the sender immediately by e-mail and delete all copies of the message.

From: Culpepper, Linda [mailto:linda.culpepper@ncdenr.gov]
Sent: Tuesday, October 17, 2017 4:08 PM
To: Buckley, Timothy <Buckley.Timothy@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Mitchell, Ken <Mitchell.Ken@epa.gov>; Banister, Beverly <Banister.Beverly@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; France, Danny <France.Danny@epa.gov>
Cc: Scott, Michael <michael.scott@ncdenr.gov>; Woosley, Julie <julie.woosley@ncdenr.gov>; Johnson, Chris <chris.johnson@ncdenr.gov>; Cox, Heidi <heidi.cox@ncdenr.gov>; Allen, Trent <trent.allen@ncdenr.gov>; Gregson, Jim <jim.gregson@ncdenr.gov>; michael.abraczinskas@ncdenr.gov
Subject: FW: data requested

Forwarding air emissions data.

Linda Culpepper
Deputy Director
Division of Water Resources
North Carolina Department of Environmental Quality

1611 Mail Service Center
Phone: 919-707-9014

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Abraczinskas, Michael
Sent: Tuesday, October 17, 2017 3:55 PM
To: Culpepper, Linda <linda.culpepper@ncdenr.gov>
Subject: data requested

Linda,
Attached you'll find the emissions data requested by EPA today. Please pass along to the points of contact.
Thanks!
-Mike

Mike Abraczinskas, EIT, CPM
Director, Division of Air Quality
North Carolina Department of Environmental Quality

919 707 8447 office
michael.abraczinskas@ncdenr.gov

217 West Jones Street
1641 Mail Service Center
Raleigh, NC 27699

<image001.png>

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

<DEQ Emissions Information Dimer Acid.docx>

To: Miles, James[miles.james@epa.gov]
Cc: Lott, Don[Lott.Don@epa.gov]; Sullivan, Greg[Sullivan.Greg@epa.gov]; Saenz, Diana[Saenz.Diana@epa.gov]; Ellis, Tony[Ellis.Tony@epa.gov]
From: Garvey, Mark
Sent: Fri 7/21/2017 8:30:48 PM
Subject: RE: Meeting on GenX with Patrick Traylor and Region 4

Enforcement/Investigatory / Ex. 7(a)

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Friday, July 21, 2017 2:54 PM

To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Re: Susan Shinkman Came to My Office to Call Scott Gordon in Region 4

Go well?

Sent from my iPhone
On Jul 21, 2017, at 2:01 PM, Garvey, Mark <Garvey.Mark@epa.gov> wrote:

> FYI – Scott Gordon is briefing Patrick and needed details on the 1 pager
>
> We called Mark Fite & Scott Gordon together
>
> Mark
>
> ---
>
> *Mark Garvey*
> EPA Headquarters
> Office of Civil Enforcement
> Attorney
> 202-564-4168
> garvey.mark@epa.gov
>
> NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Sullivan, Greg[Sullivan.Greg@epa.gov]
From: Miles, James
Sent: Mon 7/24/2017 7:09:29 PM
Subject: RE: Meeting on GenX with Patrick Traylor and Region 4

How does next Monday work? We'll have information from the 28th due date and no OCSPP/RDD conflicts.

From: Sullivan, Greg
Sent: Monday, July 24, 2017 3:05 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Lott, Don <Lott.Don@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>
Subject: RE: Meeting on GenX with Patrick Traylor and Region 4

Thanks Mark,

James,
Let's schedule a call with all the interested regions (3,4,5, and I think 2?) to download from my call with Chemours counsel and to coordinate next steps/inquiries. Thanks

---

From: Garvey, Mark
Sent: Monday, July 24, 2017 2:39 PM
To: Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Lott, Don <Lott.Don@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>
Subject: RE: Meeting on GenX with Patrick Traylor and Region 4

Enforcement/Investigatory / Ex. 7(a)

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Sullivan, Greg
Sent: Monday, July 24, 2017 2:36 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>; Miles, James <miles.james@epa.gov>
Cc: Lott, Don <Lott.Don@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>
Subject: RE: Meeting on GenX with Patrick Traylor and Region 4

Enforcement/Investigatory / Ex. 7(a)

From: Garvey, Mark
Sent: Friday, July 21, 2017 4:31 PM
To: Miles, James <miles.james@epa.gov>
Cc: Lott, Don <Lott.Don@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Ellis, Tony

<Ellis.Tony@epa.gov>
Subject: RE: Meeting on GenX with Patrick Traylor and Region 4

Enforcement/Investigatory / Ex. 7(a)

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

From: Miles, James
Sent: Friday, July 21, 2017 2:54 PM
To: Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Re: Susan Shinkman Came to My Office to Call Scott Gordon in Region 4

Go well?

Sent from my iPhone
On Jul 21, 2017, at 2:01 PM, Garvey, Mark <Garvey.Mark@epa.gov> wrote:

> FYI – Scott Gordon is briefing Patrick and needed details on the 1 pager
>
> We called Mark Fite & Scott Gordon together
>
> Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Speir, Jeffrey[speir.jeffrey@epa.gov]
From: Miles, James
Sent: Tue 8/15/2017 3:17:34 PM
Subject: FW: Region 4 inspection
Chemours GenX.pptx
sanitized_consent_order_p_08_0508_and_0509 (006).pdf
Sun et al. 2016.pdf
Chemours Briefing for Acting RA 061417 WPD Update 6-16-17 BBA.docx

Sending for the ppt Chemours gave to the Region a while back.

-----Original Message-----
From: Garvey, Mark
Sent: Tuesday, June 20, 2017 9:11 AM
To: Miles, James <miles.james@epa.gov>; Haas, Craig <Haas.Craig@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Bernota, Carolyn <Bernota.Carolyn@epa.gov>
Subject: RE: Region 4 inspection

I'm attaching:

Enforcement/Investigatory / Ex. 7(a)

Let me know if there are other items you want to discuss.

Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.gov

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

-----Original Message-----
From: Miles, James
Sent: Tuesday, June 20, 2017 8:58 AM
To: Haas, Craig <Haas.Craig@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>; Ellis, Tony <Ellis.Tony@epa.gov>; Bernota, Carolyn <Bernota.Carolyn@epa.gov>

Subject: Region 4 inspection

Enforcement/Investigatory / Ex. 7(a)

Sent from my iPhone

To: Oif, Leslie[Oif.Leslie@epa.gov]
From: Saenz, Diana
Sent: Mon 12/11/2017 3:38:28 PM
Subject: FW: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 1pm
OCE Weekly AA-DAA 12112017.pdf

Will you come to this mtg in person? (Are you here today – or calling in) We may get into a bit of anti-duplication

Diana J. Saenz
Associate Director
Waste and Chemical Enforcement Division
Office of Civil Enforcement/ U.S. EPA
1200 Pennsylvania Ave., N.W.
Mailcode 2249A
Washington, D.C. 20460
Phone: (202) 564-4209
Fax: (202) 564-0022
Saenz.Diana@epa.gov

From: Saenz, Diana
Sent: Friday, December 8, 2017 3:29 PM
To: Farmer, Alan <Farmer.Alan@epa.gov>; Monell, Carol <Monell.Carol@epa.gov>
Subject: FW: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 1pm

FYI – Here is the agenda for the call on Monday at 1:00 pm and the Chemours GenX briefing paper.

Thanks
Diana

Diana J. Saenz
Associate Director
Waste and Chemical Enforcement Division
Office of Civil Enforcement/ U.S. EPA
1200 Pennsylvania Ave., N.W.
Mailcode 2249A
Washington, D.C. 20460
Phone: (202) 564-4209
Fax: (202) 564-0022
Saenz.Diana@epa.gov

From: Garvey, Mark
Sent: Friday, December 8, 2017 3:15 PM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Theis, Joseph <Theis.Joseph@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>
Cc: Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>; Bahk, Benjamin <Bahk.Benjamin@epa.gov>; Collins, Charlie <collins.charlie@epa.gov>; Rog, Morgan <Rog.Morgan@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Saenz, Diana <Saenz.Diana@epa.gov>; Miles, James <miles.james@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>; George, Verne <George.Verne@epa.gov>; Bates, Keith <Bates.Keith@epa.gov>; Tucker, Marlene <Tucker.Marlene@epa.gov>; Nowell, Valerie <Nowell.Valerie@epa.gov>; Hansen, Susan <Hansen.Susan@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Buso, Roberto X <Buso.Roberto@epa.gov>; Palmer, Leif <Palmer.Leif@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Strynar, Mark <Strynar.Mark@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>; George, Verne <George.Verne@epa.gov>; Davis, Lauren O. <Davis.LaurenO@epa.gov>; Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Moyer, Adam <moyer.adam@epa.gov>; Doa, Maria <Doa.Maria@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>; Vendinello, Lynn <Vendinello.Lynn@epa.gov>; Buckley, Timothy <Buckley.Timothy@epa.gov>; Harris, Kimberly <harris.kimberly@epa.gov>; Clark, Jacqueline <clark.jacqueline@epa.gov>
Subject: RE: - Briefing OECA AA Susan Bodine Chemours / GenX Call-in info Monday 1pm

Attached is the agenda for the **Monday ** 1pm Susan Bodine Briefing**

It is part of the weekly OCE meeting with the AA.

OCE Weekly w/AA/DAA/PDAA, call in number Personal Phone / Ex. 6

Region 4 will be joined by Regions 2, 3 and 5 on the call.

I'll send the final briefing paper when it becomes available.

Thanks,
Mark

Mark Garvey
EPA Headquarters
Office of Civil Enforcement
Attorney
202-564-4168
garvey.mark@epa.govcl

NOTE: This email and its attachments may contain confidential information, attorney-work product, enforcement sensitive material or privileged information.

To: Schweer, Greg[Schweer.Greg@epa.gov]
Cc: Vendinello, Lynn[Vendinello.Lynn@epa.gov]
From: Olson, Bethany
Sent: Mon 6/4/2018 9:20:05 PM
Subject: FW: [For revision by Thu, 6/7] ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
DRAFT AGENCY Tox Assessment for GenX Chemicals_Sec 1 and 2 for OPPT 06-4-18.docx
ORD Gen X consolidated comments for OPPT.DOCX

FYI

From: Aubee, Catherine
Sent: Monday, June 4, 2018 1:00 PM
To: Babcock, Amy <babcock.amy@epa.gov>; Benson, Amy <Benson.Amy@epa.gov>; Brinkerhoff, Chris <Brinkerhoff.Chris@epa.gov>; Tobias, David <Tobias.David@epa.gov>; Olson, Bethany <olson.bethany@epa.gov>
Cc: Henry, Tala <Henry.Tala@epa.gov>; Fehrenbacher, Cathy <Fehrenbacher.Cathy@epa.gov>
Subject: [For revision by Thu, 6/7] ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
Importance: High

Internal draft, deliberative

Hello all,

Please see attached comments from internal (EPA) peer review.

Please send me any edits by **Thursday, June 7**, so we can collate and reconcile as needed.

David, let me know if you are able to handle comments on p-chem/fate.

Bethany, I believe CCD contributed to the use section. I'm happy to incorporate any edits you might have in response to the comments.

Best,
Catherine

From: Strong, Jamie
Sent: Monday, June 04, 2018 9:41 AM
To: Henry, Tala <Henry.Tala@epa.gov>
Cc: Behl, Betsy <Behl.Betsy@epa.gov>; Jacobs, Brittany <jacobs.brittany@epa.gov>; Miller, Gregory <Miller.Gregory@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>
Subject: FW: ORD comments on History, Uses, Occurence, P-chem, Fate, and Toxicokinetics
Importance: High

Tala,
Attached are comments received from the Agency review on the sections of GenX developed by OPPT. The first document is ORD's consolidated comments (they had a lot and we didn't have time to move over into draft document). The second is the draft document Sections 1-2 with comments from all other program and regions.

No one sent a redline markup of the Appendix B document that was sent out separately. The main thrust of the Appendix B comments was that the content should be better integrated into the main body of the document.

Please provide us with edits by Friday June 8th.

Jamie

Jamie B. Strong | Chief, Human Health Risk Assessment Branch
Health and Ecological Criteria Division | Office of Science and Technology | Office of Water
U.S. Environmental Protection Agency

1200 Pennsylvania Avenue, NW, 4301-T, Washington, DC 20460
☎ Phone: (202) 566-0056 | strong.jamie@epa.gov

To: Theis, Joseph[Theis.Joseph@epa.gov]; Pollins, Mark[Pollins.Mark@epa.gov]
Cc: Denton, Loren[Denton.Loren@epa.gov]; Collins, Charlie[collins.charlie@epa.gov]; Carol King (King.Carol@epa.gov)[King.Carol@epa.gov]
From: Speir, Jeffrey
Sent: Tue 6/20/2017 12:51:06 PM
Subject: RE: NC County Commissioner notes from last week's meeting

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Jeffrey Speir
Attorney-Adviser
U.S. Environmental Protection Agency
OECA – OCE – Water Enforcement Division
1200 Pennsylvania Avenue, NW (2243-A)
Washington, DC 20460
(202) 564-0872

From: Theis, Joseph
Sent: Tuesday, June 20, 2017 8:06 AM
To: Pollins, Mark <Pollins.Mark@epa.gov>
Cc: Collins, Charlie <collins.charlie@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>
Subject: Re: NC County Commissioner notes from last week's meeting

Enforcement/Investigatory / Ex. 7(a) / Attorney-Client / Ex. 5

Sent from my iPhone
On Jun 19, 2017, at 5:54 PM, Pollins, Mark <Pollins.Mark@epa.gov> wrote:

Mark Pollins, Director
Water Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance (OECA)
U.S. Environmental Protection Agency
Phone: (202) 564-4001
Fax: (202) 564-0018

From: Senn, John
Sent: Monday, June 19, 2017 4:41 PM
To: Starfield, Lawrence <Starfield.Lawrence@epa.gov>; Traylor, Patrick <traylor.patrick@epa.gov>; Cozad, David <Cozad.David@epa.gov>; Shinkman, Susan <Shinkman.Susan@epa.gov>; Kelley, Rosemarie <Kelley.Rosemarie@epa.gov>; Sullivan, Greg <Sullivan.Greg@epa.gov>; Miles, James <miles.james@epa.gov>; Pollins, Mark <Pollins.Mark@epa.gov>; Denton, Loren <Denton.Loren@epa.gov>; King, Carol <King.Carol@epa.gov>
Subject: NC County Commissioner notes from last week's meeting

All,

A county commissioner from Brunswick County, N.C. (adjacent to where the Chemours facility is located) posted his notes from last Thursday's meeting online. Here are a few of his notes on the company's position regarding GenX.

- According to the company, they re-capture 100% of the GenX produced at this operation. Apparently, the EPA has exclusive regulatory jurisdiction over this portion of the operation.
- According to the company, there is a separate and apparently unrelated process, in a different part of its facility, where GenX is an "unregulated by-product" of that process. This is apparently the source of the GenX that has been found in our river. This has apparently been taking place since 1980.
- The company contends that, because the GenX being discharged through that separate process is an unregulated by-product that is not subject to the EPA consent agreement, the discharge is permissible. Thus far, no one from the state or federal regulatory agencies have disputed this assertion.

The commissioner's full set of notes is available at: http://www.brunswickcountync.gov/wp-content/uploads/2017/06/Chemours-Meeting-Summary-FW-6-16-2017.pdf

John Senn
Acting Communications Director
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
(202) 564-8996 - senn.john@epa.gov
https://twitter.com/EPAJustice

Message

From: Tobias, David [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A575BB6B68848B08A7AFACEFE07F6B5-TOBIAS, DAVID]
Sent: 6/15/2017 4:23:16 PM
To: Lynch, David [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c732d9b0621e4f15a84a62c1af51a809-Lynch, David]
Subject: FW: Dupont/WV consent order on discharges of GENX at Parkersburg
Attachments: DuPont.pdf; C3_acid_dimer.pdf

David A. Tobias
202.564.8534
6334 P - WJC East
Risk Assessment Division (RAD)
Office of Pollution Prevention and Toxics (OPPT)
My office hours : 8:30 am - 5:00 pm

From: Libelo, Laurence
Sent: Thursday, June 15, 2017 11:37 AM
To: Tobias, David <Tobias.David@epa.gov>; Sarraino, Stephanie <sarraino.stephanie@epa.gov>; Krasnic, Toni <krasnic.toni@epa.gov>; Garvey, Mark <Garvey.Mark@epa.gov>
Subject: Dupont/WV consent order on discharges of GENX at Parkersburg

Here is some info on the discharges in Parkersburg WV. WV has a consent order that talks about the EPA consent order and what it means for discharges in WV and other places.

I don't have the actual measured effluent values.

west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304-2345
Telephone Number: (304) 926-0495
Fax Number: (304) 926-0463

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

January 31, 2012

Jim and Della Tennant

Personal Address / Ex. 6

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Re: WV/NPDES Permit No. WV0001279
Consent Order No. 7418 Comments

Dear Mr. and Mrs. Tennant:

This correspondence is in response to your comment letter dated December 13, 2011 regarding draft Consent Order No. 7418 for WV/NPDES Permit No. WV0001279 issued to the Dupont - Washington Works facility. Comments are summarized first in bold italics followed by the agency's responses.

1. ***Comment: The order should not allow Dupont to discharge the new compound until all of the treatment upgrades are completed.***

   The existing treatment employed at the facility will provide treatment of the new compound. The additional treatment proposed by the permittee will enhance treatment and allow for less frequent change-outs of activated carbon from the existing carbon bed system. Regardless of the treatment enhancements to be made by the permittee, the effluent limitations for the new compound are effective immediately upon issuance of the consent order and will be protective of the water quality standards and designated uses of the Ohio River.

2. ***Comment: The order shouldn't be issued without explaining the new compound, its effects on people and the environment, its toxicity, and how the DEP arrived at the safety levels and monitoring requirements for the new compound.***

   The new compound (C3 Dimer Acid/Salt) is a new fluoropolymer compound that Dupont is representing as an ultimate replacement for the existing fluoropolymer known as C8 (or PFOA, perfluorooctanoic acid). Dupont entered into a Toxic Substances Control Act Consent (TSCA) Consent Order with the U.S. EPA in January 2009 which granted Dupont approval, under conditions set forth in the TSCA Consent Order, to manufacture, process, and distribute the new compound. The U.S. EPA TSCA Consent Order

ED_002003G_00094901-00001

prescribed certain requirements and toxicological studies regarding the new compound. In 2011, Dupont provided toxicological data to the WV DEP as well as plans to begin production of the new compound. As noted, the U.S. EPA TSCA Consent Order prescribes certain requirements on Dupont regarding the new compound and those requirements are required to be achieved independent of Consent Order No. 7418 that is proposed by the WV DEP. The WV DEP reviewed the toxicological information provided by Dupont regarding the new compound. Chronic studies which provide data regarding long-term impacts are still being conducted by Dupont on the new compound and are not yet complete. Although such long-term studies are preferable, toxicological data from shorter-term (e.g. subchronic) studies may be used to determine a suitable toxicity criterion, provided an additional safety factor is applied. Thus the agency utilized subchronic (90 day) data developed by DuPont in support of its PMN submission (subsequent to the 2009 TSCA Consent Order), incorporating appropriate safety/uncertainty factors, in order to calculate a risk-based Drinking Water Equivalent Level (DWEL) for the new compound. As a courtesy, the agency has attached a memo prepared by a WV DEP toxicologist which summarizes how the agency arrived at the risk-based DWEL. As the requisite chronic studies are completed in the future, the agency will revisit and revise, as necessary, the value indicated in the WV DEP Consent Order. However, based on the information provided and all other information available at this time, the WV DEP has determined that the requirements imposed will be protective of West Virginia's narrative water quality standards found in 47 CSR 2, Section 3 of the West Virginia Legislative Rules.

3. ***Comment: A public hearing is requested.***

   The agency received three (3) requests for a public hearing regarding the consent order. Based on the limited comments received by the agency and resultant limited requests for a public hearing, the agency has determined that a public hearing is not warranted.

The agency would like to thank you for taking the time to submit comments.

The Division of Water and Waste Management issued Consent Order No. 7418 on January 31, 2012. Thank you for your interest in this order.

Sincerely,

Scott G. Mandirola
Director

Enclosure

cc w/enclosure: U.S. EPA Region 3
Env. Inspector Supervisor
Env. Inspector