
NORTH CAROLINA
COUNTY OF WAKE

IN THE GENERAL COURT OF JUSTICE
SUPERIOR COURT DIVISION
13-CVS-11032

STATE OF NORTH CAROLINA *ex rel.*)
NORTH CAROLINA DEPARTMENT OF)
ENVIRONMENT AND NATURAL RESOURCES,)
)
Plaintiff,)

V.)

SIERRA CLUB, WATERKEEPER ALLIANCE,)
NEUSE RIVERKEEPER FOUNDATION,)
WINYAH RIVERS FOUNDATION, ROANOKE)
RIVER BASIN ASSOCIATION, and CAPE)
FEAR RIVER WATCH, INC.,)
)
Plaintiff-Intervenors,)

DEPOSITION OF
KENNETH MARK
RUDO, Ph.D.

v.)

DUKE ENERGY CAROLINAS, LLC,)
)
Defendant.)

and

NORTH CAROLINA
COUNTY OF MECKLENBURG

IN THE GENERAL COURT OF JUSTICE
SUPERIOR COURT DIVISION
13-CVS-14661

STATE OF NORTH CAROLINA *ex rel.*)
NORTH CAROLINA DEPARTMENT OF)
ENVIRONMENT AND NATURAL RESOURCES,)
)
Plaintiff,)

V.)

CATAWBA RIVERKEEPERS FOUNDATION,)
INC., APPALACHIAN VOICES, YADKIN)
RIVERKEEPER, MOUNTAINTRUE, DAN)
RIVER BASIN ASSOCIATION, ROANOKE)

RIVER BASIN ASSOCIATION, SOUTHERN)
ALLIANCE FOR CLEAN ENERGY, and)
WATERKEEPER ALLIANCE,)
)
Plaintiff-Intervenors,)
)
v.)
)
DUKE ENERGY CAROLINAS, LLC,)
)
Defendant.)

MONDAY, JULY 11, 2016

PINE CONFERENCE ROOM
NORTH CAROLINA DEPARTMENT OF
HEALTH AND HUMAN SERVICES

5505 SIX FORKS ROAD
RALEIGH, NORTH CAROLINA

9:57 A.M.

VOLUME 1

PAGES 1 THROUGH 220

1 what DENR did with it?

2 A. No. My assumption is that it would go to
3 Public Water, as per our agreement, and they would take
4 the steps to protect those folks.

5 Q. Did the Aqua customers who called you -- did
6 they indicate whether they had received any written
7 notification, or what led them to call you?

8 A. I think they had received some type of
9 notification. The calls that we got were more of the
10 nature of an explanation of the risk.

11 Q. Now, I believe -- do you remember the levels
12 in the Aqua systems?

13 A. No, sir.

14 Q. Now, going back again, I believe you said
15 there were some consensus agreements that then were
16 objected to.

17 A. Yes, sir.

18 Q. And what were the ones that were objected to?
19 What were the aspects of the consensus agreements?

20 A. Well, I think one of the meetings ended when
21 Reeder, who was sitting right across from me at that
22 meeting, we had debated what we were going to do in terms
23 of sending out the Health Risk Evaluations, the language
24 that we were going to be using, the Standards and the
25 Protective Numbers we would be using. And at -- and I am

1 not sure whether this was the February or the March. I
2 think it was the March meeting.

3 He essentially asked me a question about would
4 I guarantee to him that we would reach out to the
5 residents and make sure we were communicating the risks
6 and helping them, if DENR agreed to what we were
7 proposing to them to do. And my response was that we
8 would. And he ended his presence at the meeting by, in
9 effect, turning to his folks and going, "Okay, you know,
10 do what they want to do, we are in agreement."

11 And that was -- and we were ready to move
12 forward based on him saying, "Okay, we are good." And
13 literally, a day or two later, he changed -- he threw up
14 a whole new set of objections and stopped the process
15 right in its tracks. And we essentially spent several
16 days in March scrambling to try to get back to consensus
17 again.

18 Q. What were the new objections he raised?

19 A. They wanted language on the Health Risk
20 Evaluation forms that, from our standpoint, and what we
21 had done for over 30 years in protecting private wells,
22 we felt we couldn't do that. They wanted language put on
23 there that stated, in essence, we were overreacting in
24 telling people not to drink their water.

25 He wanted us to say on the forms, "Well, there

1 is risk. You shouldn't drink the water, but it is not
2 exceeding any Public Water Standards or any EPA
3 Standards. So this is the maximum risk, and it is" --
4 you know, it was almost like saying, "Don't drink the
5 water, but don't worry about it," which was -- that was
6 something we had never been asked to do before.

7 And up to that point, my name was on the forms
8 as the person to contact, which is something that I
9 always want to do, because I want people to call me if
10 they have questions. And once they insisted on this
11 language in there, and Sandy and I objected to that for
12 many, many reasons -- but ethical reasons more than
13 anything -- they -- they insisted.

14 And our Department, I guess, wanting to make
15 sure we had consensus, agreed to do that. And I said,
16 "Well, at this point, you have got to take my name off of
17 this. You know, I can't stand behind that. That is just
18 -- it is just not right. It is going to confuse people.
19 People are not going to really know whether they should
20 drink the water or not." I mean, it is crazy stuff. It
21 just didn't make any sense.

22 But once again, it reflected their concern
23 with the fact that Public Water issues were things that
24 they were still concerned about. And because they were
25 concerned about those, they sort of took that to say,

1 "Well, we want to tell everybody that Federal Standards,
2 it doesn't exceed them. So this is sort of an
3 overreaction." And that was just -- and it put us in a
4 position -- and this occurred on two occasions. The
5 first time this occurred, I said, "Take my name off of
6 this, I cannot -- you know, if we have got to send it
7 out, we have got to send it out. But my name is not
8 going to be on this."

9 And we are going to now have to make sure that
10 we literally talk to everybody. We were talking about
11 300 -- 400 families, maybe more. And we were going to
12 have to make sure we talked to them, explained the risk
13 so that they weren't confused by this language that was,
14 in essence, saying two different things.

15 So that was the first -- first time that
16 happened. And we actually sent out, I believe, some
17 Health Risk Evaluations with that language. And within a
18 day, we had -- we were told to pull it back because they
19 -- they wanted to make more changes.

20 Q. Now, you said that you had ethical concerns.
21 Could you explain what the ethical concerns were?

22 A. To my Department?

23 Q. Yes. And to you, yes. Could you explain,
24 please, what ---

25 A. Yes. I mean, we did it both in writing and in

1 meetings with our supervisors, why this was of concern.
2 Our Department agreed that it was a concern. They didn't
3 really want to do it, but I think they felt -- once
4 again, they wanted to make sure that -- I mean, because
5 of the hold up from Reeder and his folks, we were now
6 sitting -- the concern we had was we were sitting on
7 sample results for residents that had been -- we are now
8 -- we are now a week into March, maybe two weeks into
9 March, and we are sitting on sample results from early
10 February and mid-February.

11 So we have sample results that are of concern
12 to people. And because we are still trying to work it
13 out, we are not able -- we are sitting on them, while
14 people are at risk. And we are not able to tell them
15 that they are at risk. And that was -- that was a
16 concern also. We needed to get to these folks and start
17 working to protect them.

18 Q. Now, could you explain the nature of your
19 ethical concerns about the language that you referred to
20 earlier?

21 A. I think it is -- it is what I have already
22 said. It is that, you know, you want -- we always try
23 to, in writing -- let me take a step back. When you tell
24 people that something is wrong with their water, it is --
25 you know, people take their drinking water for granted.

1 They assume that, you know, you are going to pick up your
2 bottle or use your tap, and the water is going to be --
3 it is good water. It is water. Everything is okay. We
4 understand, and we have always understood as a Health
5 Risk Assessment group, that -- and John and I have talked
6 about this on many occasions -- that when you tell
7 somebody something is wrong with their water, it is a
8 very serious matter. It is a quality of life, stunning
9 thing to tell somebody.

10 If anybody went home, in this room today, and
11 you walked to your door and there was this little notice
12 on your door saying that your water was contaminated, it
13 would just change -- it changes everything. It changes
14 how you look at your day; it changes how you look at
15 water, whether it is public water or your own private
16 well. And it affects how you feel.

17 And that is part of the reason we were created
18 as a group, to make sure we reached out to people and
19 took the alarm -- took the dread of this situation and
20 removed it for people, and put it in a framework that
21 they would understand what is in their water, they would
22 understand what the risk is, they would be less afraid of
23 the issue because now they understood it, because they
24 had somebody to explain it to them, which is what we do.

25 And they also had somebody that was going to

1 stand with them, that was going to work to protect them,
2 fight to protect them, go talk to whoever was necessary
3 to help them get a good water supply, whether it was a
4 responsible party, whether it was a City Council, County
5 Commissioners, the legislature or whoever. So that is
6 what we do to remove the alarm, remove the dread.

7 And in order to do that -- and this goes, now,
8 to the answer of the question: you want to have a form
9 that you are giving people -- the notice, that is very
10 straightforward, very layman friendly. They look at it
11 and they understand. It says, "It is okay to drink, it
12 is not okay to drink. You may want to give us a call and
13 we will help you with it," and that is what we have
14 always done.

15 But we have never sent out a mixed signal with
16 the Health Risk Evaluations that we send. People look at
17 them and they understand it. This was a -- the mother of
18 mixed signals. I mean, it was a mixed signal to me. If
19 I got it, I would look at it and go, "Well, I don't
20 know." And I mean, it was so bad that when Dr. Davies
21 instructed me to start calling everybody, which was a
22 very arduous thing, to try and call 400 people, a lot of
23 the people weren't sure what to do because of the
24 language.

25 And that was -- that was -- it was really

1 difficult. It was tough. And it wasn't necessary. But
2 Reeder and his folks felt to protect, I guess, the
3 sanctity of Public Water -- "We don't want to -- you
4 know, we want to establish that Public Water Standards
5 are the basis for drinking water for everybody" -- and
6 they are not. But they wanted to put that language on
7 there.

8 So, initially, they put the language -- they
9 wanted to put it at the bottom of the form. And even
10 worse, it was at the bottom, and it was in really tiny
11 letters. So a lot of people might have missed it or, you
12 know -- and then the second time it happened was worse.
13 Let me think.

14 The second time it happened was the end of
15 March, around April Fool's Day. And we had, I think, 118
16 Health Risk Evaluations that we were getting ready to
17 send out. And I was -- I was exhausted. And I was going
18 to take some -- a week or two off. And so I finished up
19 the 118 Health Risk Evaluations. Kennedy and I reviewed
20 them. We were getting ready -- they were going to send
21 them over to Eric Smith at DENR to put cover letter on
22 and send out to the residents.

23 So I left thinking, "Okay, we are -- okay. We
24 are at least starting to do it now." And I am halfway
25 home. I am in a t-shirt, shorts, moccasins. I am ready

1 to go rest. And I get a phone call from Dr. Davies
2 telling me to turn around -- I was almost at Chapel Hill
3 -- to go back, that the Governor wanted to discuss this.
4 And, I mean, my first reaction was, "Well, I am not
5 really dressed to, you know, go meet with somebody that"
6 -- I mean, I have never talked to a Governor in all of
7 the years I have been here. I was telling the John the
8 other day, I have been in the Governor's mansion, because
9 he had lead problems and we were fixing their water, but
10 I never actually -- but I have never actually talked to a
11 Governor.

12 So I was a little, even for me, intimidated by
13 this, much less the way I was dressed. She was like "I
14 don't care how you are dressed, they want to talk to
15 you."

16 So I went down to that big old building in
17 downtown Raleigh, and the Governor wasn't there. He
18 participated for a couple of minutes by phone. So I met
19 with -- was it Josh Ellis? Is that his name? I am not
20 sure. I think it is him. And he had an assistant.

21 And they wanted to talk about what we were
22 putting on these forms. And the Governor called for
23 about, I guess, five minutes or so to sort of -- he was
24 in the middle of some other issues. And I am not exactly
25 sure, even from my notes, because it was -- the guidance

1 -- whether he had given Mr. Ellis the guidance what to
2 talk to us about before we arrived. But he essentially,
3 you know, was saying, "Okay. We need to discuss the
4 language on the forms." And then he left it to Mr. Ellis
5 to do that.

6 Q. And what did Mr. Ellis tell you?

7 A. He had a concern. Once again, I don't know
8 whether this was from Mr. Ellis or from the Governor,
9 because the Governor never actually specifically said
10 what, you know, his concerns were. But he had a concern
11 about what we were telling these folks on the forms.
12 Thier concern was initially telling people not to drink
13 the water. He felt that was a pretty strong thing to do.

14 And so I spent probably about a least a half
15 an hour explaining to them -- because they weren't
16 familiar with what we did. And this is something we
17 often have to do with new bosses or people that are not
18 familiar with our group. I explained to him the Risk
19 Assessment Process: what we do, how we do it, what we
20 base it on, that it is all science based. We are not --
21 we don't go out on limbs, you know. We base it on
22 science that we can support, that we can defend anywhere
23 we have to.

24 And that -- part of the reason that we tell
25 people not to drink the water, if there is an exceedance,

1 is because we learned before I came here, 30 years ago --
2 I came here 27, but before that -- they learned, and the
3 person who hired me explained this to me, that if you
4 just tell somebody there is something wrong with their
5 water, that there is a risk, they have got chemicals in
6 their water that might cause cancer or something like
7 that, and you just say, "Well, that is it, see you
8 later," they had learned early on that that was probably
9 the most alarming thing you could do, because you were
10 essentially telling people there was something wrong with
11 their water, pulling the rug out from under them, and
12 just leaving them lying on the floor to figure out how to
13 get up.

14 So our branch learned early on that the only
15 way -- the appropriate way, from a moral and ethical
16 standpoint, to do this, and to make sure that we were
17 protecting public health -- which is what our -- you
18 know, our goal is -- what we are supposed to do, was to
19 do what I have talked about today, which was give them
20 information on the use of their water -- bathing,
21 showering drinking, washing clothes, dishes, explain the
22 chemicals to them, what they could do, what they can't
23 do, whether it is a high risk, low risk, how should they
24 look at it, and then to help them take steps to get a
25 clean water supply.

1 And that was a lesson that our Branch
2 apparently learned the hard way, maybe back in '85 or
3 something like that. Because by the time I had arrived
4 in 1989, they were telling people this part (phonetic)
5 not to drink the water. So that was considered the
6 appropriate thing to do. And I don't think Mr. Ellis
7 quite understood that.

8 And I think after we explained it to him, I
9 think he understood a lot better why we were doing it
10 this way. And I think the thing that the Governor wanted
11 us to do was to try to explain to each person
12 individually what their risk was, either numerically if
13 possible. And that is just not something we are able to
14 do on a Health Risk Evaluation because, number one, as we
15 explained to Mr. Ellis, the sample results are a snapshot
16 of that day. So the risk could change by the time we are
17 looking at it maybe a week later or, in this case,
18 unfortunately, a month and a half later. And that it is
19 really misleading to tell them numerically what the risk
20 is without more information to support it. And you
21 really can't do it numerically for non-cancer and
22 toxicity end points.

23 So I think he understood that. And I think at
24 that point, the crux of the conversation was, "Well, how
25 can we relate the degree of risk -- you know, how else

1 could we address it?" And I think the suggestion might
2 have been made by one of the other folks, that because
3 this was coming from DENR -- this concern -- that if DENR
4 wanted to address or try to address numerically or in
5 some other way, themselves, in their letter -- their
6 cover letter, they could feel free to do it. Because we
7 really couldn't do it in our letter. It really wasn't
8 appropriate.

9 So that meeting was left with, "Okay. We will
10 probably put some language in the cover letters." And,
11 you know, he said, "Go on vacation. Rest." And when I
12 came back, to my, I guess, "surprise" is mild, they had
13 pulled the 118 Health Risk Evaluations back again because
14 there was another dispute from Tom Reeder and his group.
15 Once again, they wanted additional language put on the
16 forms that they knew that I would not -- would not have
17 been acceptable to me. It was even more confusing.

18 And they now wanted us to put it in the
19 statement in the line where we were telling people not to
20 drink their water, basically saying, "Don't drink the
21 water, but we are overreacting." That is essentially
22 what it says. And they knew I would have a problem with
23 it, so it was done while I was gone. When I got back, it
24 was -- they had re-sent them with this language. So, you
25 know -- so we were stuck with it. And there was nothing

1 we could do about it. And I think that was a -- that
2 made it even more important that we talk to everybody.

3 But these are the kind of things that were
4 going on with DENR and Tom Reeder. I mean, this was -- I
5 mean, I had never seen anything like this before.

6 Q. When you were called to the Governor's office,
7 or to meet with the Governor, did anyone from HHS go with
8 you?

9 A. Kendra Gerlach, who was our public relations
10 person, went to the meeting. And she probably took
11 notes, also.

12 Q. But Dr. Davies did not go with you?

13 A. I am not -- no, she didn't go. I am not sure
14 whether she was in town or not.

15 Q. And the Secretary didn't go with you?

16 A. No. I was just told just to go over there.
17 It was probably because we had already finished. The
18 Health Risk Evaluations were about to be sent out. I
19 think there was an urgency, and they just said to turn
20 around and go back.

21 Q. How did the Governor learn about this?

22 A. I have no idea. I would imagine that, you
23 know, the heads -- I know the Secretaries, Dr. Wos, and I
24 am not sure who was the secretary, whether it was van der
25 Vaart or not at that time. Obviously, these were --

1 because of the issues involved, you know, it was clear
2 that these decisions were being made not at the peon
3 level by me and Sandy and those folks, or even, you know,
4 Eric Smith or Debra Watts, but these were decisions that
5 were being decided at the tops of our departments. So if
6 the Governor was aware of that, I wouldn't be a surprise.

7 Q. Who was at the meeting other than Mr. Ellis
8 and yourself and the Government Relations person?

9 A. Just Kendra Gerlach.

10 Q. So there were just three people there and the
11 Governor on the phone?

12 A. Four. There was four of us. It was Mr. Ellis
13 and his assistant, myself and Kendra Gerlach.

14 Q. During the meeting, did anyone mention Duke
15 Energy?

16 A. I don't think so.

17 Q. Tell us what the Governor said about his
18 concern or why he had called you over there.

19 A. I just think he was concerned about, you know,
20 making sure that what we were telling the residents, you
21 know -- like I say, I think it gets back to sort of
22 like, "to know us is to love us," you know? It is the
23 kind of thing where what we do, it concerns a lot of
24 people that are just coming -- that are not familiar with
25 how we work.

1 And then they are very surprised to see that
2 what we do is all science based, peer reviewed published
3 science. We vet everything that we do. We do our
4 homework. We explain what we do to people.

5 So a lot of times -- for example, the thing I
6 mentioned earlier about Neuse Crossing, we had to go to
7 our department at the very top and first tell them --
8 explain to them who we were, how we work, because they
9 had never worked with us before. And so a lot of that
10 is, is that a lot of people have their own viewpoint
11 about how they think we should do issues related to
12 drinking water and how should we communicate with people,
13 and what we should tell them and not tell them. And a
14 lot of people have opinions of that.

15 And that is -- you know, we understand. We
16 have always understood that. And that is why a lot of
17 times we have to sit down, explain who we are, how we do
18 what we do. And most -- pretty much every time -- but
19 there will be one exception we will talk about later --
20 every time we explain this to people, whether they are in
21 our department, new bosses, new state health directors,
22 new heads of departments, after they listen to us when we
23 explain to them what we do, they usually understand and
24 they work with us.

25 Q. I think you answered this, but just in case my

1 memory is wrong, have you ever been summoned by a
2 Governor before?

3 A. Just to the mansion to -- they had very old
4 plumbing over there. This was maybe -- this was when
5 Governor Hunt was the Governor. And he asked that we
6 come over there and take water samples and look under the
7 sinks and everything, and look around and see if we could
8 get the lead out of their water supply, make
9 recommendations whether they should be drinking it or
10 not, things like that. But I never actually spoke with
11 the Governor.

12 Q. Have you ever been summoned before by a
13 Governor about an issue of public concern before?

14 A. No.

15 Q. To your knowledge, has anyone else in your
16 group ever been summoned to meet with the Governor
17 before?

18 A. I am certain that this has occurred, yes.

19 Q. But you don't -- with respect to this issue,
20 has anyone in your group met with the Governor with
21 respect to this issue?

22 A. That, I don't know.

23 Q. Now, did you learn why the change was made in
24 the letter while you were out?

25 A. No.

1 Q. And the change -- was the change made in the
2 Health Risk Assessment?

3 A. It was made -- well, I think they left the
4 tiny little writing at the bottom of the form, but they
5 also added language basically saying this was the maximum
6 risk, literally right after we are telling people not to
7 drink their water. And it was just amazingly misleading
8 and dishonest language.

9 Q. Now, was anyone's name on the health forms
10 that went out? I know you said yours was not. Was
11 anyone's name on it?

12 A. I believe all there was was a phone number for
13 our group for people to call.

14 Q. Did others in your group object to their name
15 being put on the form or not, if you know?

16 A. I don't -- I don't think anybody else was
17 asked to put their name on there, to my knowledge, but we
18 all objected to the language. Very much so. But we were
19 overruled on that.

20 Q. So in terms of the revised language, was there
21 anyone at HHS who agreed to the language?

22 A. Well, the Department would have agreed to the
23 language. I know they did so very unwillingly, at least
24 from, you know, the folks that we had been working with.
25 But I believe at that point in time, they were also

1 driven by the idea that, you know, because of Reeder
2 holding this up for so long and just essentially, you
3 know, just throwing monkey wrench after monkey wrench
4 into the process, that they just needed to get to a place
5 where he would agree to let us go forward, because we had
6 been sitting on these sample results so long. We needed
7 to start addressing them.

8 But I know from the standpoint of Dr. Davies,
9 is that she had -- her concerns were such that when I got
10 back, she basically set down with Dr. Shehee and myself
11 and said, "Okay Ken, you need to start calling people.
12 We need to make sure we are, you know, at the top of our
13 game with risk communication, even more importantly,
14 because of the language that could be confusing the
15 folks."

16 Q. Let me put the question a little bit
17 differently: did anyone in your group agree with the
18 language?

19 A. I don't think they did, no.

20 Q. Now, once those letters went out, was that the
21 end of the dispute over the so called "Do Not Drink"
22 letters? Was that the conclusion of the dispute, or was
23 there another one?

24 A. I would say that it is sort of yes and no,
25 because now we encountered a problem. Once we saw the

1 or hexavalent chromium. It really just doesn't matter to
2 us, because we are basing our numbers on hexavalent
3 chromium. And in all probability, there probably
4 wouldn't be any exceptions.

5 In other words, if they had a chromium level,
6 and we are saying, you know, "Hexavalent chromium is
7 elevated, don't drink the water," the total chromium is
8 probably still going to reflect it, I would think. So,
9 you know, I don't think it is -- to us, it is not that
10 big an issue, I would say. I mean, it is just their
11 interpretation of the information they want to present.
12 But what we are saying and what we are telling people is
13 still consistent.

14 Q. If you look at the HHS form, under the first
15 block, it says, "While this recommendation represents the
16 maximum in health protection, your well could still meet
17 all the criteria -- would still meet all of the criteria
18 of the Federal Safe Drinking Water Act for public
19 drinking water sources." Is that the language that was
20 added while you were on vacation?

21 A. Yes. And it is also language that they put in
22 their -- their cover letter. And that is what I thought
23 was decided. But because -- if you -- you look at that
24 last sentence, the first statement, "While this
25 recommendation represents the maximum health protection,"

1 that is not true. So it is an untrue statement.

2 Q. And why is it not true?

3 A. Because it may not, you know. Now, the second
4 part of that is, it is true because of what is not said.
5 There isn't a standard for -- there is no criteria
6 specifically for -- in the Federal Safe Drinking Water
7 Act for hexavalent chromium. So it is a true statement,
8 because there isn't one. But it is also misleading and
9 sort of -- it is not cool to do that. It is just not a
10 -- this is not the kind of information we should be
11 giving people, because it is misleading.

12 And that is what our objection was, is that --
13 you know, what we are telling people is there is an
14 increased risk, and we don't think you should use your
15 water. And give us a call, let's talk about it. Let's
16 let us help you. If you get in a fix, let's let us help
17 explain it to you. Let us do our job, which is what we
18 have been doing for 30 years.

19 We are very good at this. We have done
20 probably, at least, a hundred thousand of these, if not
21 more. Let us do our job, that is what our message was.
22 We know what we are doing. We have done this before. We
23 have done this helping your department on hundreds and
24 hundreds of occasions. You know, why all of a sudden are
25 we putting all of this -- this misleading stuff in here.

1 That was what our -- we didn't understand it.

2 Q. In your career, had you -- had this happened
3 with any other notice you had sent out in connection with
4 DENR?

5 A. Well, you know, there have been occasions when
6 -- and this is true with also County Health Departments,
7 who we work very closely with. If we have a new form or
8 we are updating a form, we want to talk to the folks we
9 are working with over in DENR, over in County Health
10 Departments, Environmental Health folks. We want them to
11 look at our forms. We want their comments.

12 A lot of times they help make what we are
13 saying better. They clarify it, make it simpler, make it
14 more to the point. Especially County Health Departments
15 have been really helpful doing that over the years. So
16 we want to have input. We want to have -- these folks,
17 we are working with them. We are out there in the field
18 with them. We are going to people's homes with them.

19 You know, we want them to understand it. And
20 we want the folks -- the residents to understand this.
21 And, you know, we want to be able to communicate. So --
22 but this (indicating) is sort of the opposite of that.
23 This is throwing impediments up, barriers to what we are
24 trying -- to keep it straightforward.

25 Q. Did you or anyone else at HHS or DENR, for

1 that matter, ask that either the cover letter or the HHS
2 form tell people that there was no Federal Safe Drinking
3 Water Act Standard for hexavalent chromium and vanadium?

4 A. I am sorry. Could you -- could you say that
5 again?

6 Q. I am sorry. Did any one in your department at
7 HHS, or even anyone at DEQ ask that the HHS form or the
8 DEQ letter include a statement that there is no -- there
9 are no Federal Drinking -- Federal Safe Drinking Water
10 Act Standards for hexavalent chromium and vanadium?

11 A. This is -- this was not asked for by our
12 department. This was asked for by Reeder and -- you
13 know, specifically, and their department.

14 Q. You may have misunderstood my question. Did
15 anyone ask that the information sent to the residents
16 tell the residents there is no Federal Safe Drinking
17 Water Standard for hexavalent chromium or for vanadium?

18 A. This is confusing. Are you saying whose
19 suggestion was this?

20 Q. No. Let me back up.

21 A. Yeah.

22 Q. All right. This letter says that, "Your well
23 would still meet all the criteria -- all of the criteria
24 of the Federal Safe Drinking Water Act for public
25 drinking water sources." Okay? The letter doesn't

1 contain a following statement that, "However, there is no
2 Federal Safe Drinking Water standard for hexavalent
3 chromium or vanadium."

4 A. I got it.

5 Q. Did anyone suggest that the HHS form or the
6 DEQ letter should tell people that there is no such
7 chromium standard?

8 A. Yeah, we suggested that. At our -- I can only
9 speak for, you know, our Branch, you know. We -- yes, we
10 said, you know, if you are going to say it meets all
11 criteria, we also need to say that there isn't a specific
12 MCL for hexavalent chromium and vanadium. I mean, that
13 came from us. I don't know -- above from us, I can't
14 speak for them.

15 Q. And what was the response from DEQ or your
16 Department?

17 MS. LeVEAUX: Objection.

18 THE WITNESS: Well, it is not on there. So,
19 I mean, obviously, our concerns were turned down on that.

20 BY MR. HOLLEMAN:

21 Q. Now, normally, where would somebody's name
22 appear on this HHS form?

23 A. At the bottom, where it says, "For further
24 information," a lot of times it will say, "Please contact
25 Dr. Kenneth Rudo of the Occupational and Environmental

1 Epidemiology Branch," and the phone number that is give
2 there.

3 Q. And then this little language in small print
4 at the bottom, who asked for that to be included?

5 A. Reeder.

6 Q. Now, what was the standard you used in
7 determining .07?

8 A. Excuse me? Say that again.

9 Q. What is the standard, in words, that you used
10 to determine .07 as a Health Screening Level for vanadium
11 -- I mean for hexavalent chromium?

12 A. It would be an approach.

13 Q. Approach.

14 A. How did we arrive at that number?

15 Q. Yes.

16 A. The approach would be based off of studies in
17 the scientific literature that looked at cancer and
18 non-cancer end points for hexavalent chromium. We would
19 have looked for the key studies that were utilized --
20 that would be utilized to calculate something. If it was
21 cancer, we would look at the 2 year bioassay studies.

22 We would also look at what EPA has said on the
23 subject. A lot of times we look at what California said.
24 They have got a vast number of toxicologists, and they do
25 really good work. And we have worked with them and

1 helped, you know, on a lot of issues over the years, in
2 addition to a lot of other states. So we would look at
3 what other states would do.

4 We would look at EPA regional data, screening
5 levels that they may have calculated. We would probably
6 talk to the ATSDR. They are a branch of CDC that does
7 Human Health Risk Assessment.

8 Q. And can you tell us for the record what ATSDR
9 is, if you remember?

10 A. Agency for Toxic Substances and Disease
11 Registry.

12 Q. Okay.

13 A. I may not have said that in many years. So,
14 in other words, we want to look at the peer reviewed
15 published scientific literature. We want to look at how
16 our interpretations of the literature would match up with
17 EPA, other agencies, state and federal. We want to look
18 at -- you know, derive what is called a Cancer Slope
19 Factor, which is based on the number of tumors --
20 specific tumors, numbers of tumors -- from whatever key
21 study we are going to look at.

22 If we are looking at cancer, it would be based
23 on -- for non-cancer what maybe the most sensitive end
24 point is, toxicity-wise, to calculate a reference dose.
25 And based on that, we calculate an advisory level that

1 may be recommended as a Groundwater Standard eventually.

2 Q. The footnote says that the .07 represents a
3 lifetime cancer risk for an adult at one in one million.
4 Is that a bench mark you used in a lifetime risk for an
5 adult of one in one million?

6 A. Well, in North Carolina, we are -- when we are
7 calculating what might become a Groundwater Standard that
8 we would use for protection of drinking water, the law
9 states -- there is, like, a six-part guidance for how to
10 calculate a Groundwater Standard. And for a cancer
11 calculation, according to the North Carolina 2L Law, the
12 cancer risk that we base if off is one in a million
13 lifetime cancer risk.

14 Q. Is that a Standard that is widely used in the
15 toxicology field, apart from the North Carolina Statute?

16 A. You know, I think different states, even
17 federal agencies, may use a range for a lifetime cancer
18 risk, generally from, say, one in ten thousand to one in
19 a million. A lot of times, it may depend on how you are
20 using it, what you are using it for, what kind of
21 economic impact it may have if you are promulgating a
22 standard, those kind of issues.

23 But from our standpoint -- and this is
24 important -- that we are not concerned with adjustments
25 of a number for technological feasibility or economic

1 reasons, or philosophical reasons. We are required by
2 what we do to protect health, to base our Health Risk
3 Assessments strictly on science -- peer reviewed science,
4 published science, and the values that come from there.

5 Q. There is a fact sheet that is attached to the
6 notice for chromium and for vanadium. Do you know who
7 wrote those?

8 A. We did.

9 Q. Now, after the letter went out -- I noticed
10 some letters went out on different days. Why did that
11 happen, do you know?

12 A. It is just -- it is just that as samples came
13 in, as they were sampling -- eventually we started
14 re-sampling into the summer. And so it is, in essence,
15 as DENR would get sample results back from the
16 laboratories, they would send those results to us, and
17 then we would do the Health Risk Evaluations.

18 Q. Let me show you -- just so we have got this in
19 the record -- what has been marked Exhibit 274, and see
20 if you recognize that document?

21 (Witness peruses document.)

22 A. There is a little interference with your
23 "close all tabs" and "close current tabs."

24 (Discussion off the record)

25 Yes, sir. Go ahead.

1 Q. Do you recognize this?

2 A. Yes.

3 Q. And what is it?

4 A. This would have been the calculation for the
5 hexavalent chromium Health Protective Value that was
6 calculated by the Division of Waste Management at DENR
7 for us.

8 Q. And then that was provided to you?

9 A. For review. And -- we would review it and see
10 if we were in agreement with our counterparts over in
11 DENR.

12 Q. Did you agree with what was in 274 -- Exhibit
13 274, or did you have some disagreements?

14 A. No, we were in agreement. And just to -- just
15 to clarify, we have a standing agreement with the North
16 Carolina Division of Waste Management, because they have
17 a Health Risk Assessment Group within that division. And
18 we work very closely with them. And so the calculations
19 that we did, and a lot of the work that we did on this
20 issue, was in concert and agreement with them.

21 Q. And did they agree with the .07 standard for
22 hexavalent chromium?

23 A. Well, they calculated it, and we reviewed what
24 they did and the basis for it. Yes.

25 Q. And what is Exhibit 275?

1 asked us specifically for our help.

2 You know, we -- you know, to a great degree we
3 had to have the separation of hexavalent and total for us
4 to do our job as requested by DENR and to protect the
5 folks that might be impacted. So this was Sandy Mort
6 just sort of laying out what the issues were based on
7 what the cancer risk would be if we used the MCL, what
8 the cancer risk would be if we used the current
9 Groundwater Standard for total chromium.

10 And because the rule in the law was stating
11 that we utilize -- my understanding, neither the MCL or
12 the 2L Standard were based on the cancer end point for
13 hexavalent chromium, or even total chromium. They were
14 very dated standards. So we didn't even have a number
15 that we could use that was based on the latest science.
16 So that -- number one, that is the reason for redoing it
17 or re-suggesting a number.

18 But the law -- and this -- I think probably by
19 the 16th of February, probably we had had that meeting
20 where Chris Hoke, our lawyer in our Department, had
21 explained to us that, you know, "This is what the CAMA
22 Law says and this is what the 2L Law says." And CAMA was
23 saying use 2L, 2L saying use one in a million. So we
24 were sort of, you know -- we are bound legally, according
25 to what our Department was telling us, to recommend the

1 drinking water value for hexavalent chromium based on a
2 one in a million cancer risk.

3 And we were just explaining to our folks in
4 our Department what the cancer risk would be at the other
5 standards that were -- existed for total chromium. And
6 my guess is is that this would have also been presented
7 to DENR as an explanation of why we were doing this.

8 Q. And for the record, it says, "The Federal Safe
9 Drinking Water Act approved Maximum Contaminant Level for
10 total chromium is 100 micrograms per liter in finished
11 drinking water, and the State Groundwater 2L standard for
12 total chromium is 10 micrograms per liter. Both
13 standards are for total chromium, which consists of
14 trivalent chromium and hexavalent chromium. Neither the
15 MCL nor the 2L standard are for hexavalent chromium
16 alone. The MCL and the North Carolina 2L standard for
17 total chromium are dated and no longer protective of
18 public health, based on the principles by which the North
19 Carolina 2L standards are based." Did you agree with
20 what was in the e-mail?

21 A. Yes. I think that is one of the things we
22 were trying to -- you know, our Department at this point
23 understood the -- you know, what we were recommending was
24 based on law, in terms of degree of protection. And I
25 think at this point we were also trying to communicate

1 that to DENR.

2 Q. And then the e-mail goes on to say, "Based on
3 an updated cancer slope factor for hexavalent chromium as
4 referenced in the *Toxicological Review of Hexavalent*
5 *Chromium in Support of Summary Information on the*
6 *Integrated Risk Information System* -- or IRIS -- and the
7 health-based drinking water level calculated by DENR
8 toxicologists and reviewed by DHHS toxicologists, a
9 one in one million excess lifetime cancer risk for
10 protection of public health results in a groundwater
11 concentration of 0.07 micrograms per liter." And I guess
12 you -- did you agree with that?

13 A. Yes. And it also was true that in addition to
14 IRIS containing the cancer slope factor that we agreed
15 with, they also -- it was also utilized, I believe, by
16 California EPA, OEBA. I believe they used the same
17 cancer slope factor. And I also think New Jersey did.
18 And I believe it was also -- I think, initially, we also
19 saw that -- I think it was EPA Region 9 had a screening
20 value based on the same cancer slope factor.

21 So there was a consistency of -- a consistency
22 across the board of state and federal agencies with the
23 cancer slope factor that we were utilizing. So we were
24 very scientifically comfortable with what we were
25 recommending, in addition to having very solid peer

1 reviewed published science to base it off of.

2 Q. And then the e-mail concludes, "The Excess
3 lifetime cancer risk at the MCL, or 100 micrograms per
4 liter, is one in 700. The cancer risk at the North
5 Carolina 2L groundwater standard, or 10 micrograms per
6 liter, is one in 7,000. Both the MCL and the North
7 Carolina 2L groundwater standard for total chromium
8 present an elevated excess lifetime cancer risk above the
9 North Carolina target risk level of one in one million
10 for hexavalent chromium, which is identified as a
11 mutagenic carcinogen. The excess lifetime cancer risk
12 estimates for the MCL and the North Carolina 2L standards
13 calculated using the 2L rule method result in an
14 unacceptable level of excess lifetime human cancer risk."
15 And did you agree with those statements?

16 A. Not only do I agree with it, but we still --
17 we still stand by that. And that is still what we
18 believe to be true.

19 Q. Now, did this language make it into the DENR
20 letter, or for that matter, into the HHS form?

21 A. I think, to a certain degree, it is in there,
22 because -- you know, the part about the one in a million
23 cancer risk is in the bottom of the form. In terms of
24 what it would be at the total chromium standards, no. I
25 don't think there was anybody -- I don't -- I don't

1 recall if anybody asked to have those numbers put in
2 there or not.

3 Q. And the information about the excess lifetime
4 cancer risk estimates for the MCL and the North Carolina
5 2L standards, that is not included in the materials, is
6 that correct?

7 A. No. Just the one in a million.

8 Q. I guess this is 493.

9 (PLAINTIFF-INTERVENORS EXHIBIT 493
10 WAS MARKED FOR IDENTIFICATION.)

11 Exhibit 493 is an e-mail dated March 13, 2015,
12 from Dr. Shehee to Eric Smith and Debra Watts, copied to
13 you. Do you remember the e-mail?

14 A. Very well.

15 Q. Can you explain the context for this?

16 A. Yes. This is -- I think this was the first
17 one. This was -- we were -- I know I have got a really
18 -- I have an e-mail, I think, that responds to this. But
19 this was the first time we had -- before this happened,
20 we had reached consensus between the two Departments.
21 Our Department already had -- was in agreement with what
22 we were doing. And now, as it -- this was as a result of
23 the March 6th agreement where Tom Reeder says "Go ahead
24 and do this." And then there was some more discussion
25 because he pulled it back, like, two days later. And

1 then a couple of days later, apparently they all worked
2 it out.

3 And then on Friday, March 13th, they told me to
4 go ahead and send out what he had. We might have only
5 had, maybe -- I don't know how many we had by this point
6 -- sample results, but this was a Friday. I did the
7 Health Risk Evaluation -- I remember this very well -- I
8 did the Health Risk Evaluations. I was going to run them
9 over by hand to Eric Smith, but it was -- it was probably
10 3:00, 3:30 on Friday, and he was leaving early.

11 He said, "Just bring them over on Monday,"
12 because, you know, they wouldn't have sent them out over
13 the weekend anyway because they had to get their cover
14 letters. But we were done. We were in consensus. We
15 were, you know, all dancing to the same tune.

16 So I was about to run them over. And he says
17 "Bring them over on Monday." Then we got a call from Dr.
18 Davies going, "I hope you didn't send these out yet, you
19 know -- these Health Risk Evaluations. We have got to
20 pull them back." So I said, "Well, we were going to send
21 them out but we hadn't done that." So they took a deep
22 breath and were happy we hadn't sent them out because
23 apparently there had been this -- "we," you know -- Sandy
24 and I and Mina, I guess -- had thought that this issue
25 was -- about this additional language had been decided

1 and not to put it on there.

2 So we had -- you know, and then we were -- we
3 actually had an e-mail from Dr. Davies to -- for us to
4 start sending these out, that we were in agreement. And
5 then we had to pull them back. They insisted on putting
6 this language in.

7 Q. Who is "they"?

8 A. DENR -- Reeder and his folks. Our Department
9 -- I think part of this is -- and this -- by March 13th,
10 I think the people above us in our Department were
11 getting weary of this -- this battle, which is what it
12 was. You know, we were -- it was just -- it was very,
13 very -- we had not really encountered anything like this
14 before -- any kind of resistance, then agreement, then
15 more resistance then more agree -- it was just -- it was
16 foreign to us, I guess.

17 And, you know, the impression I was getting
18 from our Department was, like, "We have just got to get
19 these out." You know, does this -- is this language, you
20 know, is it untrue? Is it this or that? And we would
21 give our opinion, but, you know, they weren't -- you
22 know, I think, you know, they were making decision based
23 on, you know, they really wanted to move forward. And if
24 it didn't really actually negate what we were saying,
25 they were willing to put it on.

1 And we still objected, you know, from within
2 our group. We have e-mails with our very, you know,
3 strong objections. But, I mean, you know, when we are
4 told to do something, we are told to do something. You
5 know, there are lines that we can't cross, both morally
6 and ethically, which is why I removed my name from this
7 at this point. But, you know, orders are orders.

8 So this is when -- the first time we pulled it
9 back and then didn't send them out again. This would
10 happen either one or two more times between March 13th,
11 2015, and a week or two into April when I was -- came
12 back from vacation.

13 Q. Can we mark this as Exhibit 494?

14 (PLAINTIFF-INTERVENORS EXHIBIT 494
15 WAS MARKED FOR IDENTIFICATION.)

16 Exhibit 494 is an e-mail -- two e-mails. One
17 begins from you to Dr. Shehee, dated Sunday, March 15,
18 and then a subsequent on the same day from you to Dr.
19 Shehee.

20 A. Yes, yes.

21 Q. Do you remember these e-mails?

22 A. Yes, I do.

23 Q. All right. The first one says, "Mina, this is
24 the HRE version that I am recommending. Since we now
25 have an absolutely scientifically untrue human health

1 statement insofar as it pertains to chromium on the
2 bottom front of our HRE form, i am removing my name from
3 the HRE form and -- as an initial reviewer. I have
4 attached my recommended version of the HRE form. It
5 still has the OEEB contact information, but I cannot,
6 from an ethical and moral standpoint, put my name on a
7 form with this absolutely untrue human health statement
8 insofar as it pertains to chromium. If you want me to, I
9 will still do the HREs and give risk communication
10 information to NC residents for the sample results, but I
11 do not want my name on this form. Sincerely, Kenneth
12 Rudo, Ph.D. Toxicologist, North Carolina Division of
13 Public Health." And is that the e-mail you sent?

14 A. Yes.

15 Q. And could you explain -- you may have already
16 done this -- but for the record could you explain what
17 was the absolutely scientifically untrue human health
18 statement as to chromium on the form?

19 A. Well, it is -- what is on here (indicating) is
20 different than what this was -- I don't have the -- you
21 know.

22 Q. Okay, right. What were you referring to?

23 A. It was probably another version of this that
24 was -- probably had -- I think had something about the
25 Public Water Standard on there. More consistent with the

1 language that is in the top of this. This (indicating)
2 is the untrue part here.

3 Q. And when you say "untrue part here," it is the
4 attachment to Exhibit 279 under "Test Results and Use
5 Recommendations," is that right?

6 A. Yes.

7 Q. Yes.

8 A. I mean it is -- this is embarrassing. I mean,
9 it is just -- this is the last thing I ever wanted, to
10 have something like this where I am just -- I am just --
11 this is -- I am stunned. Okay? I mean, I just -- I
12 can't believe that this is going on in the world now, but
13 it is. But, I mean, it is just -- this is -- this is
14 just not how we do our work.

15 I mean, we are trying to protect public
16 health. We are trying to protect people. We are trying
17 to help people. We are trying to help people protect
18 their water. And this is ground that we have just never
19 been on in all the years I have been here.

20 This is -- there are a lot of things that have
21 happened pertaining to this that has just never happened
22 before because we are the scientists. We are the ones
23 that have the knowledge and the information, and we can
24 defend this for our department. We can defend it for the
25 residents. If we have to, we could defend it for Duke or

1 with the Governor, is that right?

2 A. Yes.

3 Q. And your handwriting, I must confess, is much
4 better than mine, but I can never tell if I am reading
5 people's handwriting correctly. So would you please read
6 into the record the entry at the bottom you just referred
7 to, and then the entry about your meeting with the
8 Governor?

9 A. Okay. "4/2/15 - Finished coal ash, 3 hours
10 OT. Finished coal ash drinking water evaluations.
11 Approximately 118. Took them over to DENR. Mina okayed
12 additional statement at the bottom of the Health Risk
13 Evaluation forms, but Sandy and I suggested stating that
14 the HRE is not complete until re-sampling that we
15 requested is performed."

16 Top of the next page, "Called by Megan Davies
17 and told to go over to the Governor's office and meet
18 with Governor's Press Secretary and Kendra Gerlach about
19 coal ash forms. Mr. Ellis, the press person, took a call
20 from the Governor about something else, but told him we
21 were there for the coal ash well issue. Mr. Ellis wanted
22 me to put some specific health risk information
23 individually for each person so we could play down the
24 health risk.

25 "I explained in detail how we did our risk

1 assessments and the approach based on cancer and
2 non-cancer risk, and as a result we could not predict
3 specific risks for non-cancer end points. He then wanted
4 us to add the statement about how this risk is the
5 maximum risk and not over MCLs, and I told him we could
6 not ethically do this on our HRE forms because it would
7 not be true and correct, and it would be misleading.

8 "We discussed our concerns with DENR and their
9 fighting with us about vanadium and chromium-6 and trying
10 to ethically compromise our risk assessment process. He
11 asked if we could come up with language to suggest to put
12 on DENR form about their and his view of the degree of
13 risk and the MCL issue, and we all came up with some
14 language for suggestion to DENR. I also warned him very
15 clearly about documentation of e-mails, meeting notes, et
16 cetera, about what DENR has tried to do to compromise the
17 HRE process in protecting the residents water around
18 these sites." So I was there about one and a half hours.

19 Q. Now, the language he requested relating to the
20 MCL ended up in the HRE form that was sent out, is that
21 right?

22 A. I would say it did, yes.

23 Q. All right. After -- so after you come back
24 and the forms go out, I gather you spent time talking to
25 residents?

1 A. I have to say, I don't really remember if we
2 did or not. We actually may not have, specifically, but
3 he definitely -- he did have questions about why did we
4 tell people not to drink their water. He had some
5 concerns about that. And I sort of explained to him what
6 I have explained here about why we do that.

7 Q. What happened next?

8 A. I think you have to fast forward to probably
9 early, mid-January. Mina got a request from Randall to
10 -- Dr. Shehee got a request from Randall to -- probably
11 around the 16th of January or something like that, to
12 write a letter that she would sign stating that we were
13 going to retract the Health Risk Evaluations that we did
14 last year to the residents, and tell them -- the ones
15 that were -- you know, had levels of hexavalent chromium
16 below 10 parts per billion, we would tell them that their
17 water was safe to drink.

18 Q. And did he ever discuss this with you?

19 A. No.

20 Q. Did she explain to you why this was happening
21 or why the change?

22 A. She did not. She was -- she was stunned by
23 it. This was -- in essence, it came out of nowhere. We
24 were not expecting this. We didn't see it coming.
25 Nobody had ever asked us to do that before. This was

1 unprecedented. I mean, this was -- telling people that
2 we protected that -- we were going to tell them now that
3 what we told you was not safe is okay, when it is not, is
4 -- I mean, for obvious reasons, it is just not something
5 we had ever been asked to do before.

6 I mean, there are lots of situations where we
7 fixed a drinking water source or the contamination had
8 passed on by, and it was no longer a risk. And at those
9 times, we told people their water was safe. But it was,
10 because things has changed.

11 But this was a situation where we had no new
12 data to say anything had improved. It was not like we
13 had filtration systems or we had run water lines to these
14 folks. Nothing had changed. And he was asking Mina to
15 write a letter for Mina to sign to tell the residents
16 that their water that we said wasn't safe was now safe.

17 Q. So what did you and Dr. Shehee then do?

18 A. Well, Mina -- you know, she was like, "Do you
19 want to write the letter?" I went "No," I said, "I can't
20 do that." And I went, you know, "What are you going to
21 do?" And she was, like, "Well what do you think I should
22 do?" And I was, like, "I don't know, you know. I can't
23 tell you what to do; you are my boss. But, obviously,
24 you know how I feel about it." So I think she went home
25 and talked to her husband, thought about it, and she came

1 worked at it, DENR worked at it, we worked at it. We all
2 did our jobs at that point the way we do, you know, what
3 you are supposed to. Everybody did their jobs once we
4 had that agreement. Everybody worked to do it. So we
5 had consensus.

6 But, you know, here we had a situation where I
7 feel -- I honestly feel that we, as a Department, and as
8 -- and as a peon toxicologist at the bottom of the ladder
9 rung, we protect -- our job is to protect public health.
10 AND we did that. But what happened recently is that --
11 you know, the State Health Director's job is to protect
12 public health. And in this specific instance, the
13 opposite occurred. He knowingly told people that their
14 water was safe when we knew it wasn't.

15 And that was alarming to these people, I have
16 heard from a lot of them since this happened. They were
17 alarmed by that, which is also his job not to alarm them.
18 But by doing that and retracting it, which is
19 unprecedented, it was alarming. So his job was to
20 protect health, but he didn't do it. His job was not to
21 alarm people, but he alarmed people. He alarmed us, you
22 know.

23 But at the same time, no matter how I feel
24 about it professionally, it is his right to do it as our
25 boss. And we understood that. But we did everything we

1 could to try to let him know that this was not -- this
2 was not protecting health.

3 Q. I believe you said while you were -- maybe
4 before you left on leave, you had tried to talk with Dr.
5 Williams. And how did you make that effort?

6 A. I just asked my supervisor, I said, you know,
7 "Can you go up the line if maybe before I leave I can go
8 talk to him and maybe -- you know, maybe I can talk him
9 out of it." You know, I mean, I don't know what I was
10 thinking. I just thought that, you know, maybe, if he
11 has a conversation with one of his technical folks, maybe
12 he will, you know, reconsider because ---

13 Q. Did you ever get a response?

14 A. No, not really.

15 Q. Any kind?

16 A. No.

17 Q. Now, I believe you said initially what he told
18 Dr. Shehee was to tell people who had 10 parts per
19 billion or less that it was safe to drink their water --
20 that was the letter he was going to send out?

21 A. I have some notes here. I am not sure. Let
22 me just refer to my notes.

23 (Witness peruses document.)

24 I have three pages of notes on -- the first
25 set of notes is from 1/21/16. The second set of notes is

1 1/25/16. The third set of notes is 2/8/16, about when we
2 first heard about this, and ---

3 Q. Can we make those an exhibit, please?

4 (PLAINTIFF-INTERVENORS EXHIBIT 497
5 WAS MARKED FOR IDENTIFICATION.)

6 And Dr. Rudo, just to shorten the process, if
7 you would just read those and the dates, that would be
8 helpful.

9 A. "1/21/16 - Met with Mina. She told me Dr.
10 Williams, State Health Director, wants us to retract the
11 HREs we did, over 400, for the residents adjacent to the
12 coal ash ponds. I believe this is highly unethical and
13 possibly illegal, and I need some guidance on the
14 legality of this. I told Mina that I cannot and will not
15 do this retraction as it would result in putting
16 residents at an increased cancer risk, in addition to all
17 the ethical and possibly legal problems with this. In 27
18 years working with -- for state government, we have never
19 been asked to retract the more than 150 thousand HREs we
20 have done. It is not right to be asked to do this, and I
21 will not do this."

22 "1/25/16 - Mina is in discussion with our
23 Department about the order to retract the coal ash HREs.
24 She told the Department I will not do this and she will
25 not do this."

1 until 9:00 p.m."

2 That was what you had the e-mail earlier
3 about. As it turned out, the fax did not work. That is
4 why I was going to take them over personally. And then
5 we were -- you know, then we were told not to do it. And
6 I had to come back to the office and make changes, so I
7 was there until 9:00 p.m.

8 "3/15/15 - In office for 15 hours. Reviewed
9 updated HRE form and sent Mina an e-mail removing my name
10 from the form because of DENR's insistence of adding an
11 MCL statement that implies 100 ppb of total chromium,
12 which includes chromium VI, is considered safe. This is
13 a scientifically untrue human health statement. Thus,
14 from a moral and ethical standpoint, I have removed my
15 name from the HRE form, and I cannot ever tell people an
16 MCL for total chromium with 100 ppb is considered safe.
17 It is not safe."

18 Q. thank you. Could you remove those pages so
19 they can be made an exhibit, please?

20 (Witness complies.)

21 (PLAINTIFF-INTERVENORS EXHIBIT 499
22 WAS MARKED FOR IDENTIFICATION.)

23 MS. LeVEAUX: Can we go off the record for a
24 minute?

25 MR. HOLLEMAN: Sure.

1 Q. Do you know if it dropped the levels of the
2 carcinogen?

3 A. It did, yes.

4 MR HOLLEMAN: If we could take about a five
5 minute break, I may be almost through.

6 MR. HOLLEMAN: OFF THE RECORD. 3:31 P.M.

7 (A BRIEF RECESS WAS TAKEN.)

8 MR. HOLLEMAN: ON THE RECORD. 3:35 P.M.

9 MR. HOLLEMAN: That is all I have. Thank you
10 Dr. Rudo.

11 MR. LONG: Anita, you want to go first?

12 MS. LeVEAUX: Yes, If you don't mind.

13 D I R E C T E X A M I N A T I O N 3:36 P.M.

14 BY MS. LeVEAUX:

15 Q. I would like to just say at the outset, thank
16 you for being here, Dr. Rudo. My name is Anita LeVeaux.
17 I am Special Deputy Attorney General for the Attorney
18 General's Office representing DENR, which is now known as
19 the Department of Environmental Quality.

20 A. Yes.

21 Q. And I am going to ask this deposition be held
22 open so I will have an opportunity to review some of your
23 notes and your information, and later bring other
24 questions that we may have. So I am going to be brief,
25 with just a few questions.

1 This is just something that -- it doesn't make any sense
2 to me. I can't understand why they would do this.

3 Q. Let me ask you this. How long did it take to
4 develop the .07 part per billion hexavalent chromium
5 screening level?

6 A. Would you -- are you talking -- do you mean
7 how long did it take to actually physically calculate it,
8 or have it vetted by both Departments to the point where
9 we were going to use it?

10 Q. Well, let's start with how long did it take to
11 calculate it?

12 A. I would have to ask Hanna and David how long
13 it took them to do it. It was a pretty straightforward
14 calculation.

15 Q. Over at DENR?

16 A. Yes.

17 Q. Okay. Did you spend any time calculating it?

18 A. I reviewed the calculations. I reviewed the
19 basis for the calculations. I reviewed the science, the
20 NPT 2008 bioassay -- 2 year bioassay that was done where
21 -- the basis for the cancer slope factor. I reviewed
22 that information.

23 Q. And what other literature did you review in
24 that process?

25 A. I probably -- I probably reviewed over a

1 hundred peer review published paper looking at cancer and
2 non-cancer end points, looking at mechanistic end points,
3 looking at -- to a significant degree of mutogenicity of
4 hexavalent chromium, which was a major concern.

5 I reviewed documents from EPA, from
6 California. I am not sure if we looked at anything from
7 ATSDR or not. I would have to go back and look. But the
8 primary thing was I was looking at the individual
9 studies, the scientific literature.

10 Q. Could you look at --

11 MR. LONG: And Myra, I might need your
12 help here as well -- Exhibit 274, which you showed him
13 earlier.

14 THE WITNESS: Okay.

15 BY MR. LONG:

16 Q. So we are showing you what has been marked as
17 Exhibit 274. And you testified earlier that this was the
18 actual calculation of the .07 part per billion number for
19 hexavalent chromium.

20 A. Okay.

21 Q. And my question for you is about the
22 carcinogenic potency factor.

23 A. Uh-huh.

24 Q. What does that mean?

25 A. That is -- that is the number that is derived