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AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

convenes the

SEVENTH MEETING

PEASE COMMUNITY ASSISTANCE

PANEL (CAP) MEETING

September 20, 2018

The verbatim transcript of the Meeting of the Pease Community Assistance Panel held at the New Hampshire Department of Environmental Services, Pease Tradeport, Portsmouth, New Hampshire, on September 20, 2018.

STEVEN RAY GREEN AND ASSOCIATES
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C O N T E N T S

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P A R T I C I P A N T S

(alphabetically)

ALMOSARA, JOEL, AIR FORCE
AMICO, ANDREA, CAP MEMBER
BOVE, FRANK, ATSDR
BREYSSE, PATRICK, NCEH/ATSDR
CARIGNAN, COURTNEY, CAP TECHNICAL ADVISOR (via phone)
CARMICHAEL, LINDSEY, CAP MEMBER
DALTON, MICHELLE, CAP MEMBER
DAVIS, ALAYNA, CAP MEMBER
DURANT, JOHN, CAP TECHNICAL ADVISOR
HARBESON, ROBERT, CAP MEMBER
LAZENBY, CLIFF, CAP MEMBER
MUTTER, JAMIE, ATSDR
OSGOOD, RUSSELL, CAP MEMBER
PAVUK, MARIAN, ATSDR
REH, CHRIS, ATSDR
SCHAIDER, LAUREL, CAP TECHNICAL ADVISOR
SOMERS, TARAH, ATSDR
SULLIVAN, MARK, CAP MEMBER
VETTER, SHELLEY, CAP MEMBER

P R O C E E D I N G S

(6:00 p.m.)

WELCOME AND INTRODUCTIONS

DR. BREYSSE: So welcome. I think before we go around introductions, we'll get the announcements about the exits and stuff out of the way.

CDR MUTTER: Sure. Okay, just as a few reminders, if you wouldn't mind turning off your phones or put them on silent for the meeting. Bathrooms are out these back doors, if you take a right kind of follow the hall along and they're on the right as well. Emergency exit, there's an exit out this door and if you go out the back door you came in there's also exit that way.

For audience comments or questions, we do have a place on the agenda so we ask that you wait until that time and when you do have a question if you could come up to the microphone on the very end, there's an open chair so your comments can be heard by those on the phone and also by the transcriptionist for the record and also for our video as well.

For those at the table, just a quick reminder if you'd like to speak to put your name tent on end and also to say your name before you have a comment

or question so our transcriptionist can make sure to capture that for the record. That's all there is.

DR. BREYSSE: Great. So go around the room and I'll start. I'm Patrick Breysse. I'm the Director (technical interruption) for Environmental Health and the Agency for Toxic Substances and Disease Registry. I'd like to just take a minute to introduce Chris Reh who is sitting next to me. Chris is new to you all. Chris has been working with us now for about six weeks at ATSDR, and we recruited Chris to serve as the Associate Director for ATSDR. So as I said with my introduction, I'm the head of two different groups and so my attention gets divided oftentimes and ATSDR has got a very important and valuable mission and I decided a year or so ago that I would love to have somebody to help me run the ATSDR side of the work that we do and we got permission to hire somebody which was nice in a time of, you know, a transition in the federal government where there was hiring freezes and so forth and I'm happy to say we recruited Chris. Chris comes from a -- has a very appropriate background for this job. He started working at CDC for NIOSH, the National Institute for Occupational Safety and Health. That's one of the institutes or

centers in CDC. He also has a lot of private industry experience as well, and he has a PhD in industrial hygiene environmental health from Johns Hopkins Bloomberg School of Public Health. And so we're very excited about the practical experiences he brings from the corporate side of things as well as his previous government experience and his technical background is just ideal for the kind of work that we used to do -- that we do here.

Many of you may know that NIOSH has a mandate to do work place inspections when employees ask for help. It's very similar to ATSDR's mandate to do community health assessments when communities ask for help. And so Chris came from the part of NIOSH that did all those work place assessments when workers or employers said I'm worried about my work place, can you come and help us with that work.

So Chris, I don't know if you want to say anything more about yourself.

DR. REH: Thanks, Pat. I think you covered it pretty well. I feel honored to be here. I'm still learning so please bear with me. It's also nice to be back in New England, I lived 10 years in the Boston area and I appreciate being here.

CAPT SOMERS: I'm Tarah Somers, I'm the, sorry

I've got a cold too. I'm Tarah Somers with ATSDR Region One. I'm the Regional Representative here in New England.

MR. SULLIVAN: I'm Mark Sullivan, I'm a member of CAP. I have a business here on the Tradeport.

MS. AMICO: Andrea Amico. Is this working? I'm a Portsmouth resident and also a cofounder of Testing for Pease.

MS. CARMICHAEL: Lindsey Carmichael, a Pease CAP member and Portsmouth resident.

MS. DAVIS: Alayna Davis, cofounder of Testing for Pease and CAP.

DR. SCHAIDER: Laurel Schaider from Silent Spring Institute and I'm a technical advisor to the CAP.

MR. HARBESON: Rob Harbeson, I own a business in Portsmouth. I'm a past Chair of the Board of Great Bay Kids at Pease and the parent of two affected kids.

COL ALMOSARA: Good evening. I'm Joel Almosara. I'm from the Office of the Deputy Assistant Secretary of the Air Force for Environment Infrastructure and Energy and I replace Col Costantino. Nice to be here.

MR. OSGOOD: Russ Osgood, I'm a member of the

CAP and I'm also a Portsmouth fire fighter.

MS. VETTER: Shelley Vetter, also a member of the CAP and owner of Discovery Child Enrichment Center.

MR. LAZENBY: Cliff Lazenby, Assistant Mayor, City of Portsmouth, member of the CAP.

DR. PAVUK: Marian Pavuk, ATSDR.

DR. BOVE: Frank Bove, ATSDR.

DR. BREYSSE: Great. So why don't we start with the agenda. Everybody has the agenda in front of us.

CDR MUTTER: Sir, can we go on the phone and see who's on the phone?

DR. BREYSSE: Oh, I'm sorry. Yes.

CDR MUTTER: I'll start. I'm Jamie Mutter, I'm the CAP coordinator, and if we have anybody on the phone? Okay. I guess not.

ACTION ITEMS FROM MAY 2018 CAP MEETING

DR. BREYSSE: So we can start with the action items from the last CAP meeting. Commander Mutter. Since you called me sir.

CDR MUTTER: Yes, I will do these action items. Okay, so the first one is ATSDR will share an estimated time line for the Pease Proof of Concept Study and we did that yesterday, shared that with

the CAP.

The next one, ATSDR agreed to have someone from the exposure assessment team attend our next CAP teleconference to answer questions. And we had Dr. Rachael Worley attend our June 11th CAP meeting to answer those questions.

The CAP requested the names of the peer reviewers for the Pease Proof of Concept Study. That was sent on August 22nd to the Pease CAP.

ATSDR will provide the Pease CAP with information on how a health consultation assessment is activated and Captain Somers will speak to that.

CAPT SOMERS: So I went back, after the last meeting I looked on our public facing website with information. We do have information there about the documents we produce like health consultations, health assessments and how community members can petition ATSDR to start work on a site. What we don’t have on there is how sites come to us through other avenues, so just really briefly we can start work on a site sometimes if we’re petitioned by a community member and there is enough data available, environmental sampling data for us to do that work, we’ll evaluate that petition. We also, through our mandate, work on the largest Superfund National

Priority List sites, the NPL sites. We do work on those sites and produce public health assessments for all of those sites. And then, sorry, again with the cold, we write health consultations for sites that come to us through several ways. So one could be the petition process, two could be if EPA asks us to assist on a site, or if a state asks us to assist on a site and that can be the state sometimes. It's usually through the health department but it could be through DEP or another state agency that can request our work on a site. So that's how we do that.

We can send you the link. Do you want the links for like the petition and the brief write up on the types of documents; would that be something --

CDR MUTTER: That'd be good.

CAPT SOMERS: -- you want us to send?

DR. BREYSSE: Uh-huh.

CAPT SOMERS: Okay. I get the next one too?

CDR MUTTER: Yeah.

DR. BREYSSE: So if I could just say a few things there about that. So one of the things that excited me about when I took this job was that I got to work with ATSDR. It's very unique and it's the

only place where a private citizen can have a concern about some hazardous material in their environment and ask the government to come in and help. Now, we have to do it if it's a national priority let's say from the EPA. We always almost always do it if a state asks us. So like we said, we do lots of work, but the work that we do based on citizen petitions is still a significant part of our portfolio and so it's the part of work that gives me, I think, a lot of the greatest pleasure about the work that we do, that there's actually a place where people can come and we'll do our best to address those concerns.

CDR MUTTER: Thank you. We only have one more action item to close this out, it goes back to Captain Somers. She'll inquire if the Pease health consultation roll out plan can be shared with the CAP.

CAPT SOMERS: Yes. So the official roll out plan we have that's in clearance with the document is still in our clearance process so I was told I can't release it yet. But I can -- if you want me to go over it again verbally right now, do you want me to say it again so we can get feedback if... All right, I'll do it.

So we have the two health consultations, and this ties in a little bit later too to the health consultation update. So do you want me to do it then when we talk about the health consultations?

CDR MUTTER: Yeah, either way is fine.

CAPT SOMERS: Or now?

CDR MUTTER: We already have it.

PEASE HEALTH CONSULTATIONS UPDATE

CAPT SOMERS: All right, we can do it now. So for the health consultations we have two. There is one on the public drinking water system at Pease and then there's one for the private wells that were largely off site of Pease in the Newington, Greenland area. So there's two documents that'll be produced. So the first one for the public drinking water health consultation, when they're released, both documents, when they're released will be for public comment which means we will put them on our website and we try to make the communities aware that these documents are available for them to read and comment on. And we also will have, at that time usually what we do is like a public availability session. So along with just releasing it on the website or announcing it through local social media or through newspapers, we'll actually have a meeting

where people can come and ask us questions about the document and then there'll be the public comment period. It's usually open for usually 30 to 60 days and people can write comments in to us that we will incorporate before the final version is produced. So for that public comment period for the first document which is on the Pease Tradeport drinking water, what we would do is we would set up meetings here on the Pease Tradeport and we would try to target like morning, afternoon and evening time. Since a lot of the people at the Tradeport work at the Tradeport, we want to try to accommodate their schedules to make it easy for them to come ask us questions or talk to us about the document and questions they have. So we would try to set that up to stagger times we could be here to work with people. And we would also at the same time, and I talked to Kim McNamara about this a little bit, we would reach out to the Portsmouth City Council probably and see if they wanted us to -- we could probably do one of their city council meetings, but they might want a separate meeting. It depends on their schedule, so we'd have to work through them to determine what's best for their schedule. So that would be another way members of the public could

come and listen to what we have to say about the document. So that's the first one, the public drinking water one.

For the private well health consultation, we would take a slightly different tactic in that we have the addresses for where the water samples were taken and we would try to target those residences. We'd send out a mailing to them to tell them the document's available and we would set up a time in a public place to -- for them to come talk with us as well. And again, we'd try to create a couple different times so to catch people maybe the middle of the day or after work and that way they could come ask us specific questions about their exposures. That one's a little different 'cause it's their private drinking water wells so we were trying to give them a little bit more privacy to ask questions 'cause it's their homes. And again, we would reach out to the local select boards in those towns and ask if they would like us to come present to them as well. So that would be our roll out plan. And we would rely on the CAP too to spread the word that the documents are available.

MS. AMICO: Do you have a date? I know it's in clearance, do you have any idea?

CAPT SOMERS: I still don't have a date, I'm sorry.

MS. AMICO: Okay. That's okay.

CAPT SOMERS: With the release of the tox profile we went back and updated it so it's going through clearance again.

MS. AMICO: Right. I think that's what we were told at the last meeting, right? So nothing has changed since then?

CAPT SOMERS: No. I wish I had a date. I'm really reluctant to put any dates out there without being sure that it's going to roll out the door. That's why we haven't set up meetings yet with the local like officials because I don't want to get on their calendar and then have to cancel on them. That would be -- it's not fair to, you know, they have busy schedules, I don't want to do that to them. So as soon as I have the go ahead that it's cleared, we can let the CAP know and try to start setting those times and dates for when would be a good time to like be on the Tradeport, 'cause you might know days that are better than others. I mean, obviously we wouldn't do like a holiday. You know, we're not going to do it like Thanksgiving week. I mean, that would be, you know, that's not

fair to anybody. But you might have other knowledge of what's happening locally that we could try our best to schedule so that, you know, we can get as many people to come talk to us as want to come talk to us.

MS. AMICO: So and where is the hold up in clearance with CDC or ATSDR? Where is the hold up?

CAPT SOMERS: I don't think I'd call it a hold up, I think it just -- with the tox profile coming out and the new MRLs we have, I think all the people who had looked at it before when we had the first version are now the same people that have to go through it and look at it again and with the new tox values I think everyone wants to really make sure it's done right.

MS. DAVIS: So I guess it's in ATSDR's hand right now?

CAPT SOMERS: It's in ATSDR's hand.

MS. DAVIS: Is there still the third component with the clinician guidance?

CAPT SOMERS: Yeah, if we're going to try to like do some clinician outreach? Yes. We are still planning to try to do some clinician outreach. Also I found out the New Hampshire Medical Society, they are having a little PFAS, I don't want to call it

little, a portion of their program for their November agenda, their state meeting will have a PFAS component so they'll get to some clinicians that way. I know, I don't want to speak for the state, but I know in the summer New Hampshire Department of Health and Human Services also has a new letter that's gone out. I don't won't speak for you, Dr. Chan. But that went out in the summer, right? July, I believe, with the updated information?

(INAUDIBLE)

CAPT SOMERS: Yeah, I believe it was the middle of summer. So yeah, we will still work to try to also raise awareness. I don't want to call it education again because we're not actually probably going to be able to go out and do like continuing education sessions but at least awareness of the materials that are out there. And the materials you've seen before, the clinician ones that we have at ATSDR, those are also being looked at and updated with the new MRL information. So we'll make sure, hopefully, that that's all, you know, updated before they go out the door. Anyone else? Well I just did my other part too, so.

MS. AMICO: Will you be attending the New

Hampshire Medical Society meeting?

CAPT SOMERS: Will I be? No, I don't think so.

MS. AMICO: Okay. You brought it up so I wasn't --

CAPT SOMERS: Yeah, no.

MS. AMICO: -- sure if you were invited to go.

CAPT SOMERS: No, I won't be.

DR. BREYSSE: But if invited we would participate.

CAPT SOMERS: Yeah, we could go. I mean --

MS. AMICO: Well you sat in on another meeting with the New Hampshire Medical Society --

CAPT SOMERS: Yeah, that was --

MS. AMICO: -- and you brought up the meeting, so I was just curious --

CAPT SOMERS: Yeah.

MS. AMICO: -- if you were going to be involved in that.

CAPT SOMERS: That was when we, yeah, we were discussing with them ways to do some outreach. I think largely it's for their clinician. I mean, I guess we could go. Yeah, we can think about it, it's in November. It's their -- it's on the website, their agenda is now available.

PEASE PROOF OF CONCEPT STUDY UPDATE

DR. BREYSSE: So the next part of the agenda is update on the Pease Proof of Concept. Let me just begin by saying a few words, then we have Frank and Marian who can talk in more detail. So the good news is the funding has been secured and we're going to announce very soon, I'd hoped by tonight but not tonight, that we have a contractor lined up to begin to work on the study. So it's moving forward. And so I was a little bit surprised at the amount of work it took to get the money transferred from the Department of Defense to ourselves, and it had to be done by the end of September because that's the end of our fiscal year. And so we got it done with perhaps a week to spare so everything's in good shape in that regard. But the effort to get the funding in place didn't stop us from kind of planning and moving and getting some of the details of the study in line in anticipation of getting the funding in place. And so rest assured that we're moving as expeditiously as possible.

And so if I could turn to Frank to talk a little bit about where we are with the details of the Proof of Concept.

DR. BOVE: Sure. So just to remind everyone and also let the audience know what -- the study

we're talking about. We're talking about a study that's focusing on drinking water exposures to PFAS and the contamination at, in particular, the contamination at Pease. We're talking about recruiting some 350 children, ages 4 to 17, and a thousand adults, aged 18 and over, from the Pease population. The focus of the recruitment will be those who participated in the previous New Hampshire State Health Department's biomonitoring program at Pease. So that will be the group that we'll focus our recruitment on because we'll be able then to have two points in time where we have PFAS serum levels. And the first -- and the serum level from the biomonitoring is actually closer in time to when the contamination was at its worst. So we're going to be recruiting from those participants first. If we can't get -- reach our sample size goals then we will recruit from those who are eligible to be part of that biomonitoring program but for some reason didn't participate. So that will be the second approach if we don't reach the goals we have. And then we're going to have a recruitment of 175 children from the Portsmouth area who were not exposed to the drinking water and 100 adults as reference in this study. We're going to be

collecting blood, of course, and we're going to be looking not only at PFAS but a wide range of effect biomarkers such as lipids, liver function, kidney function, immune function and so on and we'll also be doing neurobehavioral tests of the children to look at some of the symptoms of AD -- attention deficit hyperactivity disorder and other behavioral issues that affect learning and so on. So we can -- if there are still questions about the study we can talk about that.

So you all got a timeline so you have a sense of how we're progressing and what needs to be done further. We did have a panel that reviewed the contractors who bid on the task order for the study. The panel reviewed the proposals and came to conclusion as to -- made a recommendation for one contractor to get the award. We're waiting for the -- our office of financial resources, I guess it's called, to finalize that but we hope that the contractor will be chosen real soon. Should be chosen by the end of this month.

DR. BREYSSE: Yeah. Well it's -- the contractor's been chosen; we probably just can't announce the name just yet.

DR. BOVE: Yeah, we can't announce who it is

but it will be -- it should be in place by the end of this month. And so -- and then the contractor once they get the award there are certain things that they have to do in the first couple of months of the award, including working with the state health department on an outreach strategy, hiring staff, finding and establishing an office in the Portsmouth area. So those are some of the things that we can do without OMB approval. We can't consent people and start taking blood or any of that sort until we have OMB approval. And OMB approval is a wild card. It could -- we could get OMB approval as early as this spring. We could get OMB approval as late as, as you see in this timeline, September. We have no control whatsoever on the process. So and we can't call them, they call us. So that's how it is. It's unfortunate, but that's the constraints where we have. So we're not sure when we'll be on the street actually recruiting people into the study and starting to collect the data from people. As soon as we get OMB approval, that will start. Okay. So with that said, there are steps in the timeline that you can see. We have IRB approval from the CDC IRB. So that was an easy process. I wish the OMB process was like that. We

have until October 26th for the 60-day period -- comment period on the Federal Register announcement for the study. Once we've gotten so far, I think, two comments on that. We'll respond to those. We also have to deal with certain issues of privacy and protecting personal identifying information so we're working internally within our agency and CDC to deal with those issues. We are going to be collecting social security numbers so that we can follow people over time after the initial data collection. It also facilitates possible linkage with other health databases in the future as well which is, again, a way of following people. So we want to do that, but because we are -- we want to collect social security number, we have to go through more procedures and protections to make sure nothing -- no data breaches occur.

So, but we don't expect that to take too much longer. We've been working with CDC on these issues. So we should be able to turn it around and have, as it says here, undetermined date in the timeline for when we put it in for a 30-day Federal Register notice, but that should happen pretty much as it says here in the timeline, sometime in November or December. And then we wait and see how

long it takes for OMB to give us its approval. So --

DR. BREYSSE: Other things we'll be doing though is the contract, we'll have to have a database that needs to be set up to handle all the data, so the database will be developed, we'll test the database. We'll collaborate with statisticians about analysis of the data going forward. So we'll get as much as we can done in advance so that when we do get final OMB approval, we're here in the community, we've reached out to the community, we're ready to start recruiting. We'll work with the state, we'll collaborate with other investigators that might be doing studies here in the Tradeport and we'll be ready to roll.

DR. BOVE: Right. So as part of the task in the task order the contractor is supposed to work with the CAP and with other community organizations in Portsmouth to do the outreach for the study. So that is part of their work and we'll be monitoring that. It is a contract so we can stipulate exactly what they do. And so I think that it would be important for the contractor to work with the CAP and with other community organizations in their outreach strategy and with the state health

department as well. So that will be part of the effort.

DR. BREYSSE: So ideally when we approach somebody about being a part of the study they will have already heard about it --

DR. BOVE: Right.

DR. BREYSSE: -- and they'll be enthusiastic about it. One of the biggest challenges in a study like this is meeting our recruitment goal and so we'll hopefully have a lot of groundwork laid in advance so that when we do come into the community to start getting people that the excitement will be there, the need will be explained, and people will be enthusiastic about participating.

DR. BOVE: And one other thing is the Pease development authority and the tenants, is it TAP, I guess it is, they will also approach those entities to help with outreach as well to the workers and previous workers in Pease. So there's going to be a lot of different ways that the word will get out about the study.

MS. DAVIS: So this is Alayna Davis. I had a couple of questions. So the first question is would the contractor, so you said that it's been approved but you can't tell us who it is, would they attend

our CAP meetings?

DR. BOVE: Yeah.

DR. BREYSSE: I assume so. Yeah.

MS. DAVIS: Would they be on our CAP calls also?

DR. BREYSSE: Yes.

DR. BOVE: Yes.

MS. DAVIS: Okay. And then can you outline kind of what their specific role is, I mean, will they be involved with the recruitment and working with us or are they just working on behind the scenes lab work. Like how -- like specifically what tasks are they involved with?

DR. BOVE: Well they will -- they will carry out the outreach strategy so they’re tasked to actually come up with materials, outreach materials and get the word out. And in the process of doing that effectively, they’re going to be working with, as I said, with the CAP, with testing for Pease with the New Hampshire State Health Department, with other organizations in town that makes sense to --

DR. BREYSSE: But in terms of conducting the study though.

DR. BOVE: In conducting -- yeah they will do the data collection, right.

DR. BREYSSE: They will man the store front in town.

DR. BOVE: Yeah.

DR. BREYSSE: They will be the people drawing the blood, administering the questionnaires.

MS. DAVIS: Okay. So all the nitty gritty, essentially.

DR. PAVUK: Yeah. Basically they'll be the executive arm of the study, they'll be the people that will do the actual work of recruitment enrollment and data collection and sample collection. That's their main goal for the study.

DR. BOVE: Right. What they don't do is the actual analysis, that we do.

DR. BREYSSE: Now if we can go back in time for a bit. You know, our original thought was that we would announce a competition for conducting the study that people could have written proposals to do, but the way the money was transferred to us in the Department of Defense made that not possible. So the money, we cannot grant the money out the way the DOD gave us the money currently. So our only option at that point was either to hire a whole bunch of people ourselves to do the data as employees of ATSDR CDC or to subcontract the work

out to somebody to do the work and that's the route that we chose. And I can assure you the group that we picked is well qualified, reputable firm to do this work. Andrea?

MS. AMICO: Okay. Just, I guess, to continue on with that discussion, do you anticipate that this contractor will carry out the study at other sites as well as part of the --

DR. BREYSSE: Not necessarily.

MS. AMICO: Okay. So we can't expect that the company doing the work here will be the same one doing the work as part of the multi-site study?

DR. BREYSSE: Yeah, so we'll touch on that --

MS. AMICO: Okay.

DR. BREYSSE: -- when we move on to the multi-site study update what our thoughts in that arena are.

MS. AMICO: Okay.

DR. BOVE: But it's not, I mean it's because we want to use a different mechanism for the other studies.

DR. BREYSSE: Yeah, so we don't have to be rigid. So the money that's coming to us for the multi-site study will not be restricted in the same way the money we got now is. So we'll be free to

use that money however we choose and in that case we will likely have a mechan -- I say likely because we don't have anything solidified yet because we actually don't have any money beyond this year yet, just so we're clear.

MS. AMICO: The first 10 million dollars, right?

DR. BREYSSE: Yeah.

MS. AMICO: And is that -- how is that different than future money, 'cause you said you won't be restricted at these other -- for the other sites? I guess I'm not understanding that.

DR. BREYSSE: So Congress gave the Department of Defense the authority to do direct transfers of resources to CDC.

MS. AMICO: Uh-huh.

DR. BREYSSE: They did not have that authority before so that authority means they give us the money and there's no strings attached. So just to give you an example, the way we got the money before we had to sign a memorandum of understanding, essentially, with the DOD that described our roles together and we are, practically speaking, a subcontractor to the DOD for that first 10 million dollars and we had to agree, you know, to all these

provisions going forward. None of that will have to be done with the future monies because now Congress said to the DOD you can just give money directly to CDC, you don't have to go through the subcontract mechanism. So our hands are not tied in that regard and so we're free to consider things like having open competition for sites for the multi-site study.

MS. AMICO: So does that, and I'm not offending anyone with this question, but does that mean our community, perhaps, could be at a disadvantage because we're not going to have this open competition like other sites may have?

DR. BREYSSE: No. I really don't think so. The goal here is to make sure that the data that's collected here will fold seamlessly into the larger pool of data collected as part of the multi-site study independent of who does it, you know, the types of data we're collecting will be the same, the blood draws will be the same. We need these to line up.

MS. AMICO: Okay. Just wanted to ask that, thank you very much. Okay. I have a couple of other questions. So Frank you talked about the control kids, 175 control kids within Portsmouth but I know we've raised concerns that Portsmouth has low

levels of PFAS, so are those kids truly unexposed and so what is going to be your definition of a control group; is it going to be children that live in a community that have no PFAS exposure whatsoever?

DR. BOVE: Well there is no such thing. Everyone has some PFAS exposure so it's the drinking water that we're talking about.

MS. AMICO: Sure. So --

DR. BOVE: So that's the difference between those at Pease and those at -- in Portsmouth general. It's the amount of contamination that the Pease children were exposed to.

MS. AMICO: Okay. So --

DR. BOVE: So they're not –- they're a reference in the sense of they're similar to Pease children except they weren't given such a bolus of PFAS.

MS. AMICO: Okay. But also understanding that the Portsmouth children perhaps are drinking low levels of contaminants too.

DR. BOVE: Right, right, right.

MS. AMICO: Okay.

DR. BOVE: Yeah.

MS. AMICO: And you recognize that and you

would still use them as a control?

DR. BOVE: Yeah. Yeah.

MS. AMICO: I have another question about the social security number and following people over time, so I didn't know if you could describe that or maybe break that down a little bit 'cause my understanding is we're only doing a cross sectional study here. So what do you mean by following people over time through their social security number; is that a theoretical thing that we're going to do in the future or are there plans to follow people over time here at Pease?

DR. BOVE: We don't have plans, but we wanted to leave the option open and social security number is a good way of making sure we can follow people. And also adds -- what I'm doing at Camp Lejeune, for example, the social security number is key for matching with cancer registries and with the national death index. And so -- and also with other health records. So for those reasons we thought it was important to have social security number collected. It means though that we have to go through more procedures at CDC to protect it, but I think it's worth it. I think if we -- if we don't collect it it'll be harder to -- it may wipe that

option out of following these people or at least make it more difficult and so we wanted to keep that option open by doing that.

DR. BREYSSE: So I don't want to make a commitment, but we're planning for a whole host of things that we could do that we'd like to do should the resources come available to do it. So we talked before about the study of cancer, or reproductive outcomes. We see this -- and longitudinal study, we see this as the first step because we think this is the most important place to begin but we're very carefully exploring a whole host of things that we could do so that should resource become available we're ready to pursue those things. We're going to prioritize them. You know, some people might think developmental studies are more valuable than a cancer study or a longitudinal study is more valuable than a developmental study. We're going to lay all that out amongst, you know, amongst ourselves and we'll prioritize what we think is going to be the most important place to go next with the resources that we have and what will we do if we got additional resources. And as we develop those plans we'll share them with you and we can talk about them. And if there's decisions about, you

know, what has a higher priority or more important from our perspective, that's just a discussion we'll be happy to have.

MS. AMICO: I think that is reassuring to hear because I think we've made it clear as a CAP that we want more of a longitudinal commitment.

DR. BREYSSE: Yes.

MS. AMICO: So I'm very happy to hear that, so thank you very much. So I guess my last question is, I just want to be clear because it recently came to my attention that the firefighters that were exposed here at Pease would not be eligible for this study and I would just really like to better understand from ATSDR why that is and talk about if they're not eligible for this study are there plans to put them in their own study.

DR. BOVE: Okay. I can answer part of that. I think it's important that firefighters be evaluated as a separate group because their exposures are unique. And I think that -- so that's one issue. And the entity that would most likely follow firefighters is the entity that's already doing that which is NIOSH. They have three firefighter cohorts. Unfortunately, when I discussed this issue with them several years ago they said that these

firefighters were not using AFFF very much so they didn't think it was a good cohort to study. So a different cohort would have to be identified. But the reason we're not including them in this study is because we're focusing on drinking water, we want to use the drinking water contamination levels to predict what serum levels are over time and do a cumulative serum, PFAS serum evaluation similar to what the C8 study did. And the advantages to doing that are that if you use the actual biomonitoring results for PFAS there are some bias issues that could arise from particular end points and particular kidney end points, but there are other end points that are involved with reproductive end points that we're not looking at, but we wanted to be able to not only use the biomonitoring results in these analyses but also to estimate cumulative PFAS serum levels. And it's hard enough to do that with the drinking water. We would -- it would be really impossible for us to figure out in addition to the drinking water exposures what amount of PFAS a firefighter might've been exposed to either through training or putting a fire out. And so it's complicated. When the C8 study they included industrial workers but that's because -- and along

with the community exposures but that's because they already had done estimates of cumulative exposure, PFAS exposure with these workers with information from the work place itself so they can do that. And oftentimes they separate the two groups out in the analysis as well. You know, so again, because of this issue of the firefighters are diff -- the industrial workers in this case were different than the community exposures. So in order to maintain a clean study which -- it will be difficult to estimate cumulative exposure from the drinking water situation, we're going to have to do some modeling, we're going to have to make some assumptions, it's not easy to do that. It just adds a whole other layer of complexity and uncertainty by adding in occupational exposures, whether it's firefighters or other occupations that involve PFAS not from drinking water but from working with the material either in production or manufacturing or whatever. So those are the reasons why we excluded all occupational PFAS exposures from this study.

One thing to keep in mind is that the evidence that we get from these studies, this study, the multi-site study and all the other studies that have been done, both the C8 studies, the occupational

studies, all that evidence can be used to understand what the health effects of these chemicals are. We did something similar at Lejeune. We were asked by the Veterans Affairs to evaluate the evidence and most of the evidence that we looked at and used in building a case for which diseases the VA should give presumption for were based on occupational studies, they weren't based on Camp Lejeune studies because most of the information is from occupational studies. In this case with PFAS there are some occupational studies. Some of them are very small and in that case they're weak because they're small numbers. More of the studies are from community exposures so we're learning a lot more about PFAS health effects from those. All that evidence though is relevant both to firefighters, to workers who work with it and to people who get exposed from drinking water as well as from consumer products. So that -- so you don't have to be, in other words, you don't have to be in a study to have all this evidence relevant to your situation.

MS. AMICO: Okay. I just have a couple follow up questions to that. So has ATSDR -- is it, I guess, let me start with, is it appropriate for ATSDR to approach NIOSH and say we have a group of

firefighters at Pease who had drinking water exposure and occupational exposure and we're going to be doing multi-site study? I imagine other communities have firefighters that are also exposed, you know, across the nation that will be participating in the multi-site study. So is there any way to make this a separate study and would NIOSH be willing to partner with the ATSDR or is it appropriate for you guys to talk to them about that?

DR. BREYSSE: Yes, yes.

MS. AMICO: Okay. And have you talked to them about --

DR. BOVE: Yes.

MS. AMICO: -- it recently?

DR. BOVE: Not recently, no I have not. No.

MS. AMICO: Okay.

DR. BOVE: But again, we'd have to think about what the best cohort would be. There are firefighters at airports. There are firefighters at the military bases. There are firefighters who work in our communities. And the ones that NIOSH has been following apparently, according to them, did not use AFFF much and so that wouldn't be a good cohort. But so you'd have to think about what would be the best group to follow of firefighters, you

know. And you know, so we have to think about that. I mean it seems to me that there are a lot of fire -- there are a lot of firefighters and fire training going on at the military bases. The question is how good the data is to identify them. The data I've seen from the Defense Manpower Data Center, which is the personnel data for the military, is iffy when it comes to occupational information. So it may be difficult to do -- to really assemble a good cohort there. But these are the kinds of questions we'd have to ask. How -- what's the best information we can use to actually define a cohort that we're pretty sure uses AFFF at least on a routine basis or more often than not as opposed to, as I said, the NIOSH cohort. And then how can we assemble them, what information will help us assemble that group and then we can follow them over time. So that's -- these are the questions NIOSH also has to grapple with.

MS. AMICO: Okay. I would just like to continue to revisit these conversations because I know that is a group of people we don't want to forget about here. And I hear you that everyone will benefit from this study and we're all going to benefit from that information. But I think when

people are exposed and they had no control on that exposure and they want to participate in something, it's like a way -- it's you know, I don't know, just I would hate to think that these people who have had a significant exposure, not only through the drinking water, through the foam, now we know it's in their gear too. I just, I don't know, maybe I'm coming at it from a more emotional place but I feel like we need to be paying attention to that group too and we can't forget about them and they're actually a really important population we need to learn from because of their exposure. So I want to continue this conversation about how the firefighters here can somehow play into maybe not this study but another possible study, whether it's with NIOSH or whatever. I think we need to keep those conversations open.

MR. OSGOOD: I have the same, I just -- while we're on the firefighter thing -- I had the same -- I had the exact same question. And I understand why because it's a drinking water study that we're removing firefighters, I understand that. But is there any way that we can, I know you can talk to NIOSH or I can approach NIOSH and request this, but just saying because of AFFF to me is not enough.

Like I think we need to say there's multiple places that firefighters are exposed to this, through our firefighting equipment, AFFF, you know, there's lots of areas. So I just, I'm a little concerned that we've narrowed it down just to AFFF because I've been in the fire service for quite a long time and we used AFFF early on in my career but we haven't used AFFF in years so it's, you know, but it's still our -- my levels are up and many of my members' levels are up and that's concerning. If it's not the drinking water, you know, and it's not AFFF, there's something else in there.

DR. BOVE: Right. And again --

MR. OSGOOD: I'd love to get the answers to that.

DR. BOVE: Yeah.

MR. OSGOOD: And I know that's outside of what you're studying, but if we can work together to try to move that along that would be wonderful.

DR. BOVE: Well there may be, again, NIOSH is following these cohorts.

MR. OSGOOD: Yeah.

DR. BOVE: And they said they don't use AFFF much, but they wear this equipment --

MR. OSGOOD: Which they're probably accurate.

DR. BOVE: -- but they wear the equipment as you were pointing out. There may be some value, you know, if we can convince NIOSH of this or if it fits in with their protocol to do that, work with them, with the cohorts they're following. Again, I would think that if we can identify those firefighters who are actually training with it and using it more routinely and that would maybe be military bases and airports. If we can identify --

DR. BREYSSE: Of course some industrial firefighters as well.

DR. BOVE: Yeah, if we can find --

DR. BREYSSE: Refineries and chemical plants.

DR. BOVE: Yeah, right. Yeah, and again you'd have to be able to figure out a way to identify them.

MR. OSGOOD: Okay.

DR. BREYSSE: So Cliff, I think Alayna's had her --

CDR MUTTER: There's somebody on the phone.

DR. CARIGNAN: Pardon me, can I jump in on that comment? Can you guys hear me?

DR. BREYSSE: Sure.

CAPT SOMERS: Sort of.

DR. CARGINAN: So I've been talking with

firefighters as well, this is -- I think we all hear from them quite frequently, are concerned about it, and I recently heard from a firefighter who works at a base that uses AFFF. But NIOSH came out years ago, I mean three years ago and collected a bunch of data and came back telling them to to wear PPE, but haven't done much else and I know that I've reached out to NIOSH. I've suggested to firefighters with concerns to reach out to NIOSH and really it doesn't seem like any of us are getting anywhere. At least getting much of a response from NIOSH and I was just wondering if you all would be able to help -- help community firefighters to sort of get an audience with NIOSH and get them to engage in a similar way that you guys are engaging with the Pease community. Maybe that is a way to move forward on this issue.

DR. BREYSSE: Well, we'll do our best. That's a great suggestion.

DR CARIGNAN: Thank you.

DR. BREYSSE: So Alayna your card was up first but if you don't mind, if you have a firefighter question --

MR. LAZENBY: I do.

DR. BREYSSE: -- okay, good. Just want to keep a thread going.

MS. DAVIS: Okay. So I have a few questions. One was I thought I read something in the proof of concept that was regarding sampling tap water, so can you clarify who that would apply to? Was it part of the unexposed population to make sure that those people weren't exposed at their homes?

DR. BOVE: No, that was never in the protocol.

MS. DAVIS: It wasn't?

DR. BOVE: No.

MS. DAVIS: Okay. So I'll have to look back at that. All right. So can you tell us again what years the participants would've had to have been exposed on Pease for the Pease study?

DR. BOVE: Right. Well in the protocol we're saying from any time between 2004 and 2014. 2004 was we thought that after 15 years, if your last exposure was later -- was longer ago than 15 years ago, given the half-life of PFHxS, we thought we wouldn't see much in the blood so we thought that would be a cut off. And looking at those who went through the biomonitoring program, the vast majority were exposed in that window. So -- but we can relax that. It just makes it harder to figure out -- if they weren't exposed -- if their last exposure was 2003 or earlier it may be hard to estimate what

their levels are, given what we see now, you know. So that's one of the concerns. But we're not going to -- again, we're going to focus on those who went through the biomonitoring. If we can we'd like to limit it to those people who were last exposed no more than 15 years ago. If we have to relax that we will to reach our sample size goals, but hopefully we won't have to do that.

MS. DAVIS: Okay. So if anyone within that time frame participated in fire training exercises on Pease they would be eliminated from the study because that would be considered an occupational hazard?

DR. BOVE: Yeah. If they have occupational exposure, whether it's a firefighter or industrial worker who worked with the substance, yeah.

MS. DAVIS: Okay.

DR. BOVE: So it's just, again, we want to focus on drinking water exposures so that we can actually estimate cumulative PFAS serum levels over time.

MS. DAVIS: Okay. And then -- I don't know if I'm going to ask this question so that you get it, but hopefully you do. So in the end the goal, is it to -- is it to determine just the risks from

drinking water exposure to PFAS or just -- or is it actually based on the serum level in your blood, no matter how you were exposed?

DR. BOVE: It's based on the serum level.

MS. DAVIS: Okay.

DR. BOVE: It's based on the serum level of both the actual measured serum level and as I said, the cumulative serum level. Again, following the model of the C8 study.

MS. DAVIS: Okay. So then the people who were exposed occupationally still would get data from that because it's based on what their blood level would be versus how they were exposed.

DR. BOVE: Well, no. The -- again, we're going to exclude those people who were occu --

DR. BREYSSE: The data will be --

MS. DAVIS: The data --

DR. BREYSSE: -- informative --

MS. DAVIS: -- yeah, the data will give them information --

DR. BREYSSE: -- of that.

DR. BOVE: Right. That's what I was saying before --

MS. DAVIS: Okay.

DR. BOVE: -- yeah. I'm sorry, I misunderstood

your question.

MS. DAVIS: Okay. Yeah, okay. Thank you.

DR. BREYSSE: So just to be a little bit clearer, ATSDR's mission is to address community health concerns about hazardous waste and hazardous materials released into the environment. So our entrée here is the contaminated water from an industrial site, in this case, from a defense facility. That's what Congress asked us to do, that's our mandate and so that's why we're focusing on the water. We want to understand a little bit about maybe what the consumer products people are exposed to. Remember there's a big burden of exposure from consumer products as well, but we're really focusing on the water because that's ATSDR's mission. Cliff.

MR. LAZENBY: I had a question about the timeline. So you stated the work initiates once you've got approval.

DR. BOVE: The collection of data.

MR. LAZENBY: Okay.

DR. BOVE: But all this prep work can be done beforehand.

MR. LAZENBY: That was the question. So what is work that's initiated then so there's other, all

of that recruitment process, setting up office, all those kinds of things are done so that data collection can begin?

DR. BOVE: Well recruitment can't really get done until we get OMB approval. We can do all this outreach, we can -- the health department can send out letters to the people who participated in the Pease biomonitoring program to alert them about the study. We can be contacting -- the contractor can be contacting the Pease Development Authority and so on, and any other community. Also we're going to have to communicate with the Portsmouth community to get reference. So that all has to happen, it all can be happening without OMB approval. Once we get OMB approval we actually do the recruitment, collect the data and do the study.

DR. BREYSSE: Just so we're clear, we can't contact anybody directly ourselves. We don't have permission to. But the state can contact them and say would you give us permission to give your information to ATSDR. That can all be done before we start, right, so that when we're free to start the state can say, you know, here's the people who agreed to be contacted, you can contact them.

MR. LAZENBY: Well what you just described is

recruitment, is that right?

DR. BOVE: Yeah. Yeah.

DR. BREYSSE: Well it's not really recruitment until we call them up and ask them do you want to participate in the study and they sign the consent form that says I'm going to participate. We can't do any of that until OMB approves us and we wouldn't be able to do it anyway until the state contacted people and got permission for us to contact them. So that behind the scenes work can be done to set the stage for us so we're ready to go, we already have a whole bunch of people that we can call up at day one and say we'd like to come talk to you about the study.

MR. LAZENBY: When would be a reasonable time to comprehend then the arc of the project from that starting date forward?

DR. BOVE: From the starting date of recruitment or...

MR. LAZENBY: No, I'm sorry. Your OMB approval is in, then what happens? And what's the arc of that project and when do we expect, you know, results and that sort of thing?

DR. BOVE: Okay. Well I -- as soon as we get OMB approval, we start the recruitment. Okay. And

start data collection once we get -- recruit people in. And we envision that to take about a year to collect all the data we want to collect and then the contractor then has to clean the data set and get it to us so that might take another three to six months and then --

DR. PAVUK: Analyze the --

DR. BOVE: Huh?

DR. PAVUK: Analyze the sample.

DR. BOVE: Analyze the samples, right --

DR. PAVUK: Analyze all the blood samples.

DR. BOVE: Yeah, yeah. So that's another -- yeah, right. So now we're talking maybe probably about two years from the OMB approval that we actually get the data, something like that, reasonable.

DR. PAVUK: There is a (inaudible).

DR. BOVE: And then we have to analyze it. So there are -- it takes some time. So with that analysis, writing it up, getting clearance from the agency, takes another year at least so that's sort of -- it takes a while, in other words.

MR. LAZENBY: So it's going to take a good three years-ish from starting?

DR. BOVE: From when we get OMB approval, yeah.

I think that's probably realistic.

DR. BREYSSE: And of course we'll do everything we can to do it as quickly...

DR. PAVUK: Preliminary data, most likely in two years.

DR. BOVE: I mean, again, we don't know when we'll get OMB approval. If it happens earlier this thing can get moving quicker.

DR. DURANT: Can I ask a question about exposure? So is the contractor going to do all this biomonitoring survey work, are they going to be involved in exposures (inaudible)?

DR. BOVE: What we're asking them to do is collect all the data for us. So any sample data --

DR. PAVUK: No --

DR. BOVE: Huh?

DR. PAVUK: I'm sorry, go ahead.

DR. BOVE: Any sample data that has been collected already, including monitoring wells near the Harrison and the, I forget the name of the other well, the two wells that are still operating, and any reports that you -- that the Air Force did in order to deal with the TCE problem with the Haven well. So I think there's probably some information there, some reports that would help us with the

hydrogeologic characteristics of the area, maybe some soil characteristics too depending on how the TCE actually affected that well. So given that information then we're going to take that back and see what level of modeling is necessary. Okay. So we're not convinced yet what level of modeling we want to --

DR. BREYSSE: To assign exposure.

DR. BOVE: -- to assign -- to at least -- No. To -- for first to get an estimate of historical contamination in the drinking water system. Okay. So that's what I'm saying. So we're going to collect this information, assess what level of modeling is necessary to be able to historically reconstruct the contamination levels in the drinking water. And then from that we probably do some kind of one compartment model like was done at the C8 study to estimate PFAS serum levels and then accumulate it just like they did. Again, using the C8 study as a model.

DR. DURANT: But is the contractor going to do the modeling work?

DR. BOVE: No. They're collecting the information for us.

DR. DURANT: Who's going to do the modeling for

it?

DR. BOVE: Well, we are. We are. At this point that's how we envision it.

DR. DURANT: So we meaning ATSDR?

DR. BOVE: Yeah.

DR. DURANT: And so who on your team is the ground water modeling expert?

DR. BOVE: We have two people who have worked on the Camp Lejeune water modeling, Jason Sautner and Rene, I forget his last name, Rene Suarez. So they will be involved. Actually, there's a third person, Barbara Anderson. Actually all three of them worked on the Camp Lejeune study. We may subcontract some of the work out to other -- others who also worked on the Camp Lejeune project. We had Georgia Tech involved, for example. I don't know if that will still be the case. And also someone from USGS who was involved, or formerly from USGS. So there -- we haven't set up a team yet to do this, and I think part of what we're thinking is we need to see what information is actually available. And it may turn out that we can use the 2014 sample data and use that pretty much as an estimate going way back in time without doing any sophisticated modeling. We may come to that conclusion. I

mentioned a couple of approaches in one of the CAP meetings here which was developed by Georgia Tech that used the well information, for example, from the Haven well after it was shut down and monitoring wells data around it to predict back. There is sort of a black box method. So these are things we're mulling around. We haven't made a decision. And definitely if you're interested in being involved in that process or providing advice, that would be terrific.

DR. DURANT: And so what's the budget for that work?

DR. BREYSSE: Well we don't have a separate budget for that, but we have --

DR. PAVUK: There is -- there's in the preliminary contract to collect data --

DR. BOVE: To collect the data they're going to budget that.

DR. PAVUK: -- to collect data there's $75,000 to collect --

DR. BOVE: Right, right.

DR. PAVUK: -- just to collect the data for the contractor on different aspects of --

DR. BOVE: Yeah. It's part of the contract. Yeah.

DR. PAVUK: -- what a model --

DR. BREYSSE: These are full time staff that we pay to support our site assessment work, and so we will tap them to support this as needed, depending on what the study investigators think is most appropriate.

DR. BOVE: But we will be back and forth with you with the CAP on this as we see what all information we can gather. We also need to, you know I mean, we're asking the contractor to see if the Air Force has information on the extent of the AFFF use on base. When they started, how much they used per year, if they have that information, where they used it and so on. So we're going to ask the contractor to get as much information as possible and then we'll see what we have.

DR. DURANT: And last question. Will one of the modeling team be coming to these meetings and participating in the conversation?

DR. BOVE: They either could do that or they could participate by a conference call. That would, you know -- but yes. In fact they did one conference call, Jason Sautner was on one call.

DR. BREYSSE: But if we use Camp Lejeune as a model, our modelers were frequent attendees at our

Camp Lejeune CAP meetings. So any other questions about the proof of concept study?

MS. AMICO: I have one more question. I just wanted to better understand how the military population fits into this as well ‘cause you talk about people before 2004 so we know that that’s probably not active Air Force but then what about members of the current air national guard, are they eligible to be part of this study if they’re here drinking the water but maybe not using AFFF?

DR. BOVE: Well again, we’re going to focus on those people who participated in the biomonitoring so we have two points in time. Once we go through that and we still haven’t reached our goals then we would try to recruit those who would’ve been eligible for that biomonitoring program --

MS. AMICO: Well I know there are several members --

DR. BOVE: -- so I don’t know if the air national guard --

MS. AMICO: -- of the air national guard here that did participate in the blood testing program so then they would be eligible.

DR. BOVE: As long as they’re not exposed to AFFF from working with it.

MS. AMICO: Okay.

DR. BOVE: Then we can estimate their cumulative serum levels.

MS. AMICO: Okay.

DR. BREYSSE: I've been a little remiss. We have two new CAP members who joined, we didn't introduce themselves. Just to be on the record, you want to just --

MS. DALTON: Oh sure. Michelle Dalton, I'm from Testing for Pease. I apologize for being late, it's been a crazy day.

DR. BREYSSE: John.

DR. DURANT: I'm John Durant from Tufts University.

DR. BREYSSE: So no more on the proof of concepts study? If not I'll turn to -- Marian do you have an update on the multi-site study?

MULTI-SITE STUDY UPDATE

DR. PAVUK: Thank you, Dr. Breysse. So in parallel to our efforts on Pease we've been also moving on our multi-site project. Multi-site project is a multi-site study; it's projected as based on earlier feasibility study and other documents developed earlier that you may be familiar with. It has a target of enrolling about 6,000

adults and 2,000 children over the -- it's called a multi-site. There are some -- there are two, basically two mechanisms or two major efforts that we were working on and one was to develop a draft protocol for a multi-site study including all the forms and tools, just questionnaires that could be used in multi-site study based on our proof of concept study. I will describe a little bit more. Those activities, the second component was to start working on designing the process or the concept of how those studies will be conducted different from the mechanism that we used on proof of concept that was awarded as a contract. So the idea for a multi-site study was to do a cooperative agreement through the extramural research project office at the ATSDR CDC. The general concept is called extramural program of office notice of funding opportunity that we refer to as NOFO concept.

As I said, the awards would be different and there will be less restrictions on the funding for the multi-site study as Dr. Breysse mentioned, being the recipient of the awards and being able to apply for the funding that will be available to us from Department of Defense.

As I mentioned, the target creates about 6,000

adults, 2,000 children being able to apply for the awards, assumes that we do have money available for a number of years, number of funding years as specified in the appropriation bills. We're assuming that that funding would be available for 2019, '20 and '21. At this point it's anticipated that the funding could be as much as ten million dollars a year. From that funding, we really can only estimate at this point the number of awards and approximate range of awards for different sites. So if we estimate that there's about eight to ten million dollars available a year we could be able to fund about four to six awards together with approximate range of awards of about one point five to three million dollars.

As Frank and Dr. Breysse mentioned earlier the proof of concept, the multi-site study is built on one proof of concept study so we really are assuming that the methods and the core activities in the multi-site study will be modeled on the proof of concept Pease study. So we estimate we are assuming that we'll be drawing people in the collecting data and using instruments that are really based on Pease study, collecting blood to measure PFAS and clinical in effect biomarkers that will mirror the Pease

study.

So we really, what we call a core activities or the core efforts for the multi-site study will be based and mirrored out of Pease. We have been in discussions and trying to figure out additional mechanisms for the recipients of different awards depending on site conditions and the different circumstances in different communities around the country to be able and to provide additional or so-called amended proposals or programs to investigate a special site specific conditions in different sites. So in trying to address those different things our work on the protocol basically focused on how to address general or different conditions, different sites, that basically addresses two major things as refer to sampling and recruitment. The general protocol that could be used at multi-site study must address sites that have either single or complex water system where people can be recruited, must be able to address recruiting and sampling from communities that are around ex-military facilities but also at facilities that are of industrial or other use of PFAS. We’re still focused on primary focusing on the contamination of drinking water around those sites and facilities. So our

collection forms, tracking forms, consent forms have been revised to address those concerns. Similarly, as Frank mentioned, we are still working on addressing manual procedures and rules of behavior and social security number applications with our office of security and privacy.

The process, as this process is open to recipients and awardees, the ATSDR CDC will not be specifically selecting sites where this research will take place. At the same time, we need to create a mechanism and review process for those awards to come, those proposals to come to CDC and being reviewed and awarded. The NOFO process, that's why we started the process a long time before the funding is available so that this can be all lined up and have all the appropriate documentations developed with the extramural program at the CDC.

The protocol, the draft protocol, we're preparing the draft protocol for external peer review similar to protocol for Pease that had to be externally peer reviewed before it can be cleared by the agency and before we can obtain CDC IRB approval for the multi-site study that is a prerequisite of NOFO process progressing any further.

DR. BREYSSE: So I know there's a time line

here that I'm sure will come up and I can simplify this very easily. So in a perfect world, in my dream world, October 1st we get ten million dollars and it's direct transfer so it comes to us right away. So what that means is we have to spend that money by the end of September of that year. So we have to have a proposal approved, vetted, competed for, reviewed in order to get those monies out the door by next September. So that's our time line. So that's going to be aggressive for us going forward. But if we don't do that, you know, the money goes away if we don't spend it by the end of September of 2019. So we're all acutely aware of that time constraint and I'm confident we'll be able to make it but that's -- all the steps we've already talked through about them, the proof of concept study, we have to go through now for this as well but because we get money, you know, budgeted on an annual basis, this money can't be carried forward for us. So that's our constraint.

MS. AMICO: So that includes the timeline for IRB and OMB?

DR. BREYSSE: Yeah, yeah.

DR. PAVUK: I should just mention that this is -- since this is different process than awarding

contract, some of the processes can go in parallel. The request for the proposals can be published before all the approvals are achieved. Each programs and people that apply need time between three to six months to react to the notice of funding opportunities and develop, you know, their response to our protocols and stuff. So those things will go in parallel and they can -- they'll be in the process of applying before final OMB approvals are in place. We think that those could be timed, you know, together so that the time for preparation, review, and approval will kind of meet at the end so that there's time for the awards.

DR. BOVE: And there may be some give and take too.

DR. PAVUK: Right.

DR. BOVE: There may be some give and take too.

DR. BREYSSE: One of the hallmarks -- two hallmarks here, we want it to be a competitive process and it'll be up to us to give kind of what we're looking for in a competitive proposal like anybody would but we also want to build in, as Marian said, some flexibility where if a site in addition to the core work that we expect to be done, if they want to do something novel, different,

unique, they're free to add that to the study going forward. So they won't be constrained to add, you know, to do just only exactly what we say going forward. And so we're actually looking for, hopefully, some interesting opportunities to come out of that flexibility.

DR. PAVUK: And we want to build that mechanism to the award so that we do not have to go through process of changing the awards or trying to create new awards so that it's kind of organically incorporated in the original proposals that they be able to respond to.

DR. BOVE: But they will have to be the core, I think.

DR. PAVUK: Right. So the --

DR. BOVE: Which is the same thing that we're doing with the Pease study.

DR. PAVUK: -- right. So we assume that all the PFAS analysis will be done by CDC lab for all the sites for the consistency and continuity and comparability results. We also will guide the different recipients to collaborate and to agree on high level of coordination for clinical and research biomarkers so that we can achieve those kind of efficiencies and comparability across the different

sites and studies.

DR. BREYSSE: So I'm actually kind of excited about it. I think it's an excellent opportunity to do some creative science. It's going to address important community health concerns. Alayna?

MS. DAVIS: So is the difference between the Pease study and this --

DR. PAVUK: Multi-site.

MS. DAVIS: -- the multi-site, sorry. That -- I totally forgot my question. Sorry.

DR. BREYSSE: All the core measurements we're doing here are going to be the same at every part of the multi-site study. What we're allowing then through the multi-site study to say well we have a creative new developmental measure that we want to apply and it's not the one that we've been using. They will be free to say we'd like to do something new and novel and as long as, you know, through the peer review process, through the grant review process we think that's justifiable and the resources are there to support that, you know, we will allow them to add something to the study going forward. But they can't do that at the expense of the core set of stuff.

DR. BOVE: It's more like, you know, they could

pilot.

MS. DAVIS: If I remember I'll come back, but go ahead.

MS. AMICO: So when you talk about having to spend the ten million dollars before September of 2019, are you talking about the exposure assessments?

DR. BREYSSE: No.

MS. AMICO: You're actually talking about what --

DR. BREYSSE: The multi-site study.

MS. AMICO: -- you -- and you feel -- I don't -- I guess I'm not understanding, I thought the exposure assessment was the first step then you were going to pick the site, so maybe I'm not following.

DR. BREYSSE: Okay, so --

MS. AMICO: Did something change?

DR. BREYSSE: -- we haven't said anything about the exposure assessments yet.

MS. AMICO: Okay.

DR. BREYSSE: So that's a parallel effort that's ongoing right now and we're about to announce a contractor to do the exposure assessments and we're going to start that work this fall as well.

MS. AMICO: Okay.

DR. BREYSSE: We're going to announce those sites. Probably there's some additional leg work we'll have the contractor to do to make sure that we have the best eight sites. We're going to announce what those eight sites are probably sometime in the late fall, early next year.

MS. AMICO: Okay.

DR. BREYSSE: And they'll start moving forward with that. And so that's going to happen parallel to getting this grant out the door for the multi-site study. Now there's a good chance that the sites that are doing the exposure assessment are also going to be competitive sites for the multi-site study, but we're not linking the two; they're not going to be like the multi-site study can only be a site that's doing the exposure assessment or that you, you know, so they're -- they can inform the multi-site study and we're trying to compress the work here in part because of how the funding came through. To be honest the sequence of things isn't exactly like we'd do if we were just free to kind of plan it, do it our own way. But that multi-site, the exposure assessment money has to be just Department of Defense sites and we have to get that work started very soon going forward with that

money. Because again, we're going to award that money, that ten million dollars or that -- what part of the ten million dollars is going to go to that is going to be given to a contractor probably early next week, similar to the money for the multi-site study. So we're moving with that forward. And to the extent that that work is completed, it could inform our decision to pick places for the multi-site study and if it's not completed it might not be informative to our selection of multi-site study but it might be informative for the analysis of the results from multi-site study if there's an overlap between the two sites.

MS. AMICO: Okay.

DR. PAVUK: So we're unlikely, you know, to award all the sites for the multi-site study next year, right, in 2019. We do assume at this point that the process will happen over a period of two or three years so there'll be some leeway period of, you know, making those awards, maybe later years than some of the data may be available.

MS. AMICO: Okay.

DR. PAVUK: The results from exposure investigation, for example.

MS. AMICO: I guess that's good to know because

I think I was under the impression the exposure assessments were being done first --

DR. PAVUK: Yes, they are.

MS. AMICO: -- and --

DR. BREYSSE: In a perfect world they'd be done, they'd be completed and that would totally inform --

MS. AMICO: Correct. I guess that's what I thought was happening.

DR. PAVUK: We're just --

DR. BREYSSE: -- but we don't have the luxury of waiting for that to be done because we'll lose the money.

MS. AMICO: Got you.

DR. PAVUK: We need to move in parallel for that and have the processes set up and lined up even if the other information is not yet available.

MS. AMICO: Okay.

DR. BREYSSE: So my father who was in the Army, oddly enough, he used to always say, it's fair to say well that's no way to run the Navy. And so that's not how we do stuff if I were totally in charge and I had control of the resources, but that's how we're going to have to manage it to get the work done.

MS. AMICO: Okay. I guess something else, Marian, you had said that industrial sites could be included in the multi-site study. I feel like this is news. I think we've asked about other sites before, at non-DOD sites and we've never been -- I don't recall ever you saying that --

DR. BREYSSE: We're not precluded from doing industrial sites. The only -- we're only precluded from industrial sites for the exposure assessment.

MS. AMICO: Okay.

DR. BREYSSE: So --

MS. AMICO: Distinction for us to know --

DR. BREYSSE: Yeah.

MS. AMICO: -- as we talk to many community members across the nation, so.

DR. BREYSSE: Congress said we have to do at least eight DOD sites for the exposure assessment. There's no such language around the multi-site study. So we're free to pick the best sites that help us answer the most important questions, and that's all I'm going to say about that right now.

MS. AMICO: Okay. The other thing I wanted to clarify is who is choosing these sites because I thought that I heard you say ATSDR is not choosing them or --

DR. PAVUK: Correct. Correct. It is the --

MS. AMICO: Who's choosing the sites?

DR. PAVUK: Well indirectly, as I said, the approach has changed as we are announcing these notifications of funding opportunity, so we are opening up, you know, the proposals to people to apply and propose the sites instead of handpicking the sites around the country. So the process starting around, if you do the contract, you have to tell contractor we are doing these sites then we open the funding opportunity to people that can apply for the funding. They can propose which sites they want to study and we have to review and evaluate those proposals.

DR. BREYSSE: And we'll pick the strongest proposal. So ultimately we'll be picking sites.

MS. AMICO: Okay, okay. That's what I wanted to be clear. You are picking them; it's just you're not hand picking them, you're allowing people to apply. How does a community apply? Do they need a university partner or somebody who's willing to do this work?

DR. BREYSSE: You know, I don't think there's anything in the law that says that has to be the case, but it would be hard for me to imagine a

community competing successfully without the proper scientific support and expertise that would come from a university or a nonprofit or a consulting firm.

DR. PAVUK: These are research proposals so they are requirement in research proposals and the guidance for people, you know, the capabilities and the desired qualifications to apply presumed that you would have experience in conducting epidemiologic studies, that you have capabilities in some water modeling data management, data analysis, that you've done some work like that similar to that before. So all those things will be or are listed are parts of that notification.

DR. BREYSSE: So I will tell you that it's likely going to be that one of the defining criteria of being a successful applicant will be that you have to have a relationship with the affected community. So there has to be, you know, some sort of cooperation that's demonstrated through some interaction with the affected community to be, you know, as one of the competitive review criteria. So if a community in Pennsylvania really wants to help, you know, and some university in Pennsylvania wants to do it then they need to get together and show

that we're going to work together and it will be a part as a community member of that effort. And if you want to have a successful application you need to have a community partner, that's us, so let's figure out how to do it together. It's not an unusual approach to these types of grants that that expectation of that community partnership is there and we hope that those develop organically in the affected communities in collaboration with the scientists who have that kind of interest as well.

MS. AMICO: And when do you anticipate this will open that people can apply?

DR. BREYSSE: If we get award, so I don't have the exact dates in front me, so if we take September 20 -- how many days in September?

DR. BOVE: Thirty.

DR. BREYSSE: Thirty? September 30th and we -- that's -- the money has to be awarded by September 30th next year so when we back up, you know, you need to give, as Marian said, you know, two or three months at least for people to prepare their proposals and we're going to need a month or so to review the proposals and our business office is going to need weeks to kind of --

DR. PAVUK: Two months.

DR. BREYSSE: -- you know, to get the money out the door. So you know, I don't think any of that can happen if we don't announce this sometime late spring. But we're trying to back out all those dates, you know, as we walk this back.

MS. AMICO: Well once you do announce that please let us know --

DR. BREYSSE: Yeah.

MS. AMICO: -- because we have a lot of national community leader --

DR. BREYSSE: Oh, absolutely.

MS. AMICO: -- partners that are very interested and especially now that it's clear that industrial sites are not excluded I think people across the nation would find that to be good news.

DR. BREYSSE: You can start telling people now to --

MS. AMICO: Sure, I know. I'm just --

DR. BREYSSE: -- expect this.

MS. AMICO: -- confused. Do you have any information on line that we can direct people towards?

DR. BREYSSE: We're not that far yet.

MS. AMICO: Okay.

DR. BREYSSE: Our goal right now, I tell you,

was getting the first ten million dollars out the door for the exposure assessments, the Pease proof of concept, and I'm happy to say we've been successful. That's been taking a lot of our time now. Now we're going to focus like a laser beam on the multi-site study going forward. We'll start developing some of those materials and get the time lines in place and start holding listening sessions where communities and investigators can call in and ask questions about the plans. So all those things will start coming out.

MS. AMICO: I'm just trying to see if I have any other questions. I guess I just want to be clear with the multi-site study, would that also exclude any occupationally exposed people? And would it also exclude active military people? Because I think of a place like Colorado that has an active base where people were exposed so different than here which is a closed base, if they were to be one of the sites, are active military allowed to be in the study and occupationally exposed people allowed to be in the multi-site study?

DR. PAVUK: At this point the protocol is similar to Pease that would exclude occupationally exposed people. If you work directly with PFAS in

production or use industrially, we still are under impression that we are not studying occupational exposures as a main directive of the study.

MS. AMICO: And --

DR. BOVE: But it doesn't exclude military people who are exposed exclusively by drinking, well exclusively -- that weren't exposed using AFFF but were exposed by drinking water.

MS. AMICO: Okay. Does ATSDR have any plans to do a separate military study? Is this something, I know you said you're thinking about a lot of different ideas, have you given any thought to addressing military population even past exposures or present, just in their own study?

DR. BREYSSE: So we have and from two angles, one is active and one is the veterans or retired military personnel. The active personnel, again, I don't want this to sound like in any way I'm diminishing the value of it, but they're technically workers. And so in the CDC hierarchy we have to defer to NIOSH to do studies on occupational settings. So that would be the first place we try and start with that again but we are planning and thinking about what would we do to address the concerns about retired service men in terms of the

veterans and what would that look like. And we have a lot of experience with that with Camp Lejeune. That would be a big challenge as well, but that's certainly on our horizon and we're not ruling out the active service men as the folks have a study by themselves. But again, it's a complication. Remember, we can't do everything with any one study. And to make sure that we have things that's scientifically defensible as possible, sometimes we make hard decisions about where we draw boundaries between who can and can't be in the study or what can and can't be studied. And so as we move forward with this we're going to be thinking all these things through and making decisions about that. And what I can commit to is we will share those thoughts and discussions with you and the decisions that come out of that and we won't share them as a, you know, this is now what we decided. It'll be a discussion going forward.

DR. BOVE: But we have not, as I said, we have not excluded a military, active military if their exposure is drinking water; they're just like anybody else.

DR. BREYSSE: But it wouldn't be a study of active duty. We wouldn't -- that wouldn't be the

focus of our effort, per se.

DR. BOVE: Well, it could if one -- if someone -- if someone, if an academic institution came in and said here is a group of military and civilian workers at a base who did not use AFFF but were exposed because AFFF somehow got in their drinking water. I'm not sure how that would happen, but there may be a situation where you can isolate those people who just were exposed via the drinking water. I don't see why we would necessarily exclude them. You know, and certainly if we -- we could try to do Camp Lejeune style studies of people who were exposed, military and civilian workers who were exposed in the distant past and look at cancers. I mean, that would be a good group to look at cancers because enough time has elapsed since the time of exposure to the time of the cancer might develop. Also if you -- because you need a lot of people to look at cancers; if you could assemble a large population like we did at Camp Lejeune we can, you know, do that. So these are things we've been thinking about. Actually we mentioned it in the feasibility assessment as that's something to think about. So again, it would be identifying those bases where this has occurred where, you know, we're

pretty sure that the exposures are to drinking water, not to AFFF from working with it or firefighting if we can distinguish -- if we feel good that we can distinguish them. And actually I will go back to the DMDC data I have. For Camp Lejeune itself it may be hard to determine who might have been a firefighter, but there is New River Air Station attached to Camp Lejeune and I have that data as well and I'm going to go back and see how good that occupational data actually is. I don't remember because I didn't really use them in the previous study, I'm using them now, and so I'll go back and look at that. I'm not, what's the word, optimistic that the data is that good but I'll, but it may be better because actually it's an air station as opposed to just a marine base. It's a air station attached to the marine base.

DR. BREYSSE: So I don't know the order in which the tents went up so...

MS. DAVIS: So just to make sure I understand correctly, so the multi-site study is different from the Pease study in that whoever is awarded the, I don't know if you want to call it contract, but whoever receives the award --

DR. BREYSSE: Partner agreement.

MS. DAVIS: -- will be conducting all of the analysis versus Pease, ATSDR is conducting the analysis?

DR. BREYSSE: So let me -- so I want to be careful I don't speak out of turn because we haven't really talked too much about these details, but one model would be say Pennsylvania gets one of the sites and it's awarded to a university in Pennsylvania, they would be responsible for running that site, analyzing the data from that site and then they'd send it to us. And we have now -- we'd be responsible for analyzing the pooled data sent from all the sites, whereas the individual investigator would be free to kind of look at site-specific analyses and do publications based on the work at those sites. And they -- but they would also be participating in the joint analysis which is really where the power is going to come from, from the national study coming forward. So all the data will come back here and we will do the combined analysis.

MS. DAVIS: So will there be a different, I mean, whoever is awarded it, is it going to be the same study essentially at all the sites?

DR. BREYSSE: Yeah.

MS. DAVIS: Okay. So then you have a comparison for all the sites.

DR. BREYSSE: Yep.

MS. DAVIS: And then with the target numbers of the 6,000 and 2,000, is that per site or is that total across all the four to six sites that you are anticipating?

DR. PAVUK: That was total.

MS. DAVIS: Total. So there could be like 2000 in Pennsylvania and 1,000 somewhere else, but all of the participants would be participating in the same type of study, just in a different site.

DR. BREYSSE: Yeah.

MS. DAVIS: Okay.

DR. BREYSSE: And there’s lots of examples of this where NIH -- different -- NIH funds multi-site studies for cardiovascular disease or diabetes and stuff. So the model is pretty well established.

DR. SCHAIDER: Hi, this is Laurel Schaider. Andrea and Alayna asked some of my questions already, but I was curious a little bit more about the criteria for the multi-site study. In addition to industrial sites there are some nonmilitary AFFF sites as well, for instance, on Cape Cod. So in addition to having a strong team and the partnership

between the researchers and the community kind of in place, are communities that don't have biomonitoring data already kind of at a disadvantage compared to the sites that are in the exposure assessment or what are the, I'm thinking of what communities might be able to do, what information they might want to put together that would make them stronger and if there's no biomonitoring data would that make it sort of harder for them to be picked for the multi-site study.

DR. BOVE: I don't think so. For example, if a community is having current exposure, right, and part of the proposal is to do biomonitoring like we're doing at Pease, for example, that would be a strong proposal. But there's no, we're not ruling any of these things out as long as, again, it fits the -- what we're doing at Pease at the same time. I mean, I'm assuming that all the other sites will have residential exposure as opposed to Pease but that's about it. You know, and there's no reason to -- that that wouldn't -- couldn't be a strong proposal even though they haven't done biomonitoring yet.

DR. BREYSSE: But in general you'll have to justify why this is a good place to include in terms

of the magnitude, frequency, duration and exposure. And you have to build a case for that. You know, biomonitoring will help but if you don't have it you can always use some of the simple models and estimate what the monitoring levels would be based on what you know about the water. But if you don't know anything about what's in the water, you don't know anything about how long it's been in the water, you know, you'll be at a disadvantage.

DR. PAVUK: I mean, there needs to be some information of the source of PFAS in the community. So if you can justify, you know, where it's coming from you do not necessarily have to have biomonitoring.

DR. SCHAIDER: Thank you.

MR. HARBESON: I'm just curious as part of the core requirements for the multi-sites study if you will also be requesting that social security numbers will be provided for long-term tracking in those as well.

DR. PAVUK: Yes, we are, at this point. It's a really important part of evaluation of the self-report of many of those medical diagnosis that we're asking for are not reported very well if you self-report and the C8 showed, you know, you do need the

medical verification, especially in the settings as we are in now, you know, that has high visibility and a lot of, you know, interests. So you really want to verify the medical diagnosis at this point.

DR. BREYSSE: As we talked before, it's not inconceivable that in the future we will have a longitudinal component nested within this that we do follow some of these people longer term with repeat measures and so forth. And so we'd hate to set up -- it would be irresponsible to set up a study that didn't leave that option open.

MR. HARBESON: Well that's part of what I'm -- why I'm asking. I really am appreciative of that. I know early on at Great Big Kids we got a lot of questions from parents and one of the biggest challenges, we didn't have good information to provide them and so I think that's the greatest value that can come out of this is a long term understanding of what the real health effects are so future generations don't have that issue. So I'm very grateful for that. Thank you.

DR. BREYSSE: So we blew past the break. We were having such a great discussion. I don't know how you want to proceed. I'm going to -- we already had the Pease health consultation update. So the

last two things we have are questions from the audience and CAP concerns. We've heard some CAP concerns already. Does anybody have a problem with us just powering forward or do we want to take a break? So if we're going to power forward, now there's time for questions from the audience if anybody would like to come up and raise a question so there's -- where's the microphone for that?

CDR MUTTER: The last chair. They can sit in the last chair and use that microphone.

QUESTIONS FROM THE AUDIENCE

DR. BREYSSE: Okay. And just introduce yourself.

MS. HAAS: Hi, my name is Kimberly Haas, I'm a correspondent with the New Hampshire Union Leader in Manchester. I just wanted to double check the numbers for the people that'll be tested in this first group here focused on Pease. It sounded like there were 2000 adults and 350 children that are planning to be tested or, that's why I'm asking the question.

DR. BOVE: Our goal, okay, is 350 children from Pease, so that would be ages four to 17, and 1000 adults.

MS. HAAS: One thousand adults.

DR. BOVE: From Pease age 18 and over. And then we would then also recruit -- try to recruit 175 children from the Portsmouth area who were not exposed to the Pease drinking water and 100 adults.

MS. HAAS: One hundred adults.

DR. BOVE: Yeah. So we have a smaller number of reference. We -- the reference are not as important to us really as the actual Pease children and adults. So we're going to focus our efforts recruiting them but we, you know, but these are our goals. Okay.

MS. HAAS: I just wanted to make sure I got my numbers correct.

DR. BOVE: Yeah.

MS. HAAS: Thank you, Dr. Bove.

MR. CONNERS: Good evening, Ted Conners, selectman from the town of Newington. Again, Newington is asking with the wells, you're going to take the people in and test the people who have wells. The Federal Register states that eligible participants may live, work, and attend child care in Pease or in Pease Tradeport or live in a nearby home which is served by PFAS contaminant private wells. And in Newington we have about 40 wells, there are three or four that are contaminated and

quite a few of them have traces of the PFAS in there. So I'm wondering -- we've been asking all along if we could be blood tested, if we could get all of this, where does the town of Newington stand?

DR. BOVE: Well as I was saying earlier, we're going to focus our recruitment on those people who participated in the Pease biomonitoring. If we can't reach our goals with that then those who are eligible for the Pease biomonitoring would be the next group, who didn't participate but were eligible. The -- in the protocol it mentions those who resided and were served by private wells that would -- that had PFAS levels above the EPA's current lifetime health advisory which is PFOS plus PFOA equals 70 parts per trillion. I don't know how many wells in your community actually have exceeded that.

MR. CONNERS: Four.

DR. BOVE: Four.

MR. CONNERS: If the ratings are --

DR. BOVE: Right. So they, you know, again we would first -- if we don't reach our recruitment goals from the Pease biomonitoring participants, then we, as I said, move to the second wave which would be those people who are eligible for that

program but didn't participate. If we still don't reach our goals we might open it up beyond that. But we really hope to reach our goals with the participants so that we have two data points.

MR. CONNERS: This is very frustrating because in the past year we've been trying to get blood tested and we got a -- and we get into the spring of this year and the state of New Hampshire shut down the blood testing June 30th or somewhere along so we didn't. So we couldn't participate in that. We haven't been able to participate in anything. All of the aquifer and everything, all of the water leads to Newington. So the land, the streams, and a lot of it are being contaminated but we can't participate in anything. And we've been told once this comes out we'll be able to be a player but looks like we're being shut out again.

DR. BREYSSE: I don't think that's what we said. So that if we don't get our recruitment goals --

MR. CONNERS: I understand if you don't hit your goals we'll be there, but we're in second place. We're being treated as second place again. Thank you.

DR. BREYSSE: Any other comments from the

audience? All right. Now we have the CAP --

DR. CARIGNAN: I'm sorry, this is Courtney. Can I ask a question really quick just to clarify that with that comment that we just heard? Because I'm just not sure. So for the biomonitoring program was one of the inclusion criteria that you had to be exposed to the water at Pease so it excluded Newington?

DR. BREYSSE: You're talking about the state program?

DR. CARIGNAN: Yeah.

DR. BREYSSE: I would defer to the state to answer that.

DR. CHAN: So the -- So Ben Chan, State Epidemiologist, Department of Health and Human Services. So the biomonitoring program that was set up at Pease beginning back in 2015, there are two parts of this. There was the formal protocol that was put out specifying that people to be included had to have lived, worked, or attended childcare on the Pease Tradeport. That was the large portion of the study participants; however, there were also some private residences -- residences that we had recognized that border the northern edge of the Pease Tradeport who had private wells above a

certain -- with PFCs or PFAS compounds above a certain level. Those individuals were included in the study and had outreach on an individual basis to invite them, I believe, in the study.

DR. BREYSSE: Did that answer your question, Courtney?

DR. CARIGNAN: Yeah. Thank you. Yeah. If the gentleman who spoke wants to be connected, Laurel, could you maybe just connect him with us or with Andrea so that we can just talk with him?

DR. SCHAIDER: Sure.

DR. CARIGNAN: So he’s not feeling excluded and I don’t think anybody intended that so (inaudible) have anyone feel frustrated and not reach out to them. Thanks.

MS. AMICO: Can I ask a question? And I don’t want to put DES on the spot, but I think there’s been some concern that at one point in time historically water from Pease did supply water to Newington in a municipal kind of way. Do we know a time period? You may not even know this off the top of your head but I don’t know if DES knows this.

UNIDENTIFIED AUDIENCE MEMBER: I believe it was about approximately two weeks.

MS. AMICO: Two years? Do we know --

UNIDENTIFIED AUDIENCE MEMBER: Two weeks.

MS. AMICO: Two -- oh, two weeks.

UNIDENTIFIED AUDIENCE MEMBER: Yes, Brian Goetz would be the authority on exactly when that connection was made but I believe it was made two weeks before the Haven well was shut down. But Brian Goetz would be the authority on that.

MS. AMICO: Okay. I thought someone had brought up at a RAB meeting perhaps that there was back in the ‘80s perhaps there was water from Pease that was going to Newington. Maybe I misunderstood that, but I thought --

MR. CONNERS: May I respond to that?

MS. AMICO: Do you know -- do you know? Ted, I think it was --

MR. CONNERS: Yeah, I do.

MS. AMICO: I think it was Peggy that brought it up but I don’t want to -- I’m just curious --

MR. CONNERS: I don’t want to belabor this either but there was contamination in the ‘80s because at Dal MacIntyre Brook the foam was this high coming off the air base from soap and chemicals that were there and the boss said that nothing happened. I have a letter at home stating that. But Scott is correct, there was a short period of

time when the Portsmouth Haven well was -- they made a connection because of some new buildings in town so it was a very short period of time. My main concern is the people who have their own wells, most of them being checked but you know, we would like to have some of the blood testing and the other stuff that goes on but we've been shut out all along. I have, the doctor just said there was some outreach. I have never been aware of it, I've only been the selectman for less than two years so I'm not aware of it but I've had meetings in the town and nobody's come forward with that and I have not heard anything on it.

DR. BREYSSE: Sir, there might be some things we can do to help you. Can we talk to you afterwards?

MR. CONNERS: Any time at all.

DR. BREYSSE: Sure.

MR. CONNERS: Thank you.

DR. BREYSSE: So are there any additional CAP concerns at this time? All right. So what do we do when it says wrap up?

CDR MUTTER: Oh, are we going to talk about the concerns on the agenda? I didn't know if you were asking for additional ones.

DR. BREYSSE: No. Okay.

CDR MUTTER: Sorry.

CAP CONCERNS

DR. BREYSSE: So what is the medical -- what is the medical monitoring concern?

MS. AMICO: So I guess I just -- I feel like I try and say this at every single meeting that the community not here -- not only here at Pease but across the nation would like a more unified medical monitoring program and I think some people think that the health studies kind of fall into that same bucket but they really don't because the health studies as we've established are going to take years to get up and running and years to get the data back. But the people that have been exposed want to know today what they can do to protect their health. And we're really looking towards the CDC and ATSDR and our federal government to help put together a more comprehensive program that will help guide physicians because that is something that is lacking right now. And I wonder that as we're spending millions of dollars on these studies and we're collecting data, is there any way to factor medical monitoring into the studies in any way or have some type of tool that we can give out to the

participants or what not. And I'm also curious, to piggyback on that is the people that are participating in the studies, do you plan to somehow report back any information to their physicians, is it just to them. You know, how will the communication with physicians go? But that's, I guess, kind of a separate question but I just want to continue to plug the need for medical monitoring, it's a huge need.

DR. BREYSSE: Yeah. So we have, you know, guidance on our web page about guidance for clinicians about addressing patient exposure concerns and we think this represents right now what the state of the art science is. But as we said earlier today, we are constantly reevaluating what we have on our web page and we're in the process of reevaluating our clinician guidance as well going forward. And it will be informed by the multi-site study and the Pease data without a doubt. And in many ways what we're offering participants in the study is, you know, high tech medical monitoring. You know, we're looking at these people, at their thyroid levels, we're looking at their lipids levels, we're looking at their kidney function, we're looking at their liver function. These are

all clinical assessments as well. So they are getting in essence, you know, a very aggressive medical assessment as part of the study. And when we see, you know, a consistent pattern about some endpoint that's associated with exposure that's consistent with elsewhere that requires some specific change to our recommendation about medical surveillance, medical testing, we'll follow up with that.

MS. AMICO: And I think – oh.

DR. PAVUK: If I may add to that. So yes, all participants will be getting results of all their clinical tests and PFAS measurements. So there are two parts; the clinical ones is separate from the PFAS from the exposure. The clinical tests are really designed, you know, to report and inform, you know, participants and basically take those forms and results to review with their physicians. So there's an accompanying letter that describes the tests and which ones they are. We're including for clinical tests the ranges of the normal levels and the normal levels that are available for different, you know, age groups and things like that. So there is a sort of document that they can take to their primary care physician or other medical provider and

review those results. Of course there are caveats in these type of studies that they usually -- they will get this type of letters and results months after their study exams after the visit at our study office. We are not able to provide them, you know, it's not the same like you visiting your physician that you're getting your results next week or in two weeks' time. So there's this big lag that we are not necessarily are able, you know, predetermine like how quickly that can happen because we have to send those results basically to get it depending on laboratory work and when everything gets finished and when all quality control and data happens. However, when we do get results from clinical tests there's a special reporting of abnormally high results which is a special category that they'll try to record those. This is a fast kind of reporting script on special categories of certain, you know, clinical parameters. So those will be reported if over certain levels once we get the results from the lab they'll try to contact the -- to contact participants at that point. So there'll be no waiting with those for the final, you know, sending a results letters at the very end. So we do have fast reporting scripts for some clinical parameters

where this is available. But even with those there may be months delay. So a lot of that usually is addressed if you do have your clinical, you know, medical provider probably, you know, is old news to you but we'll still be reporting those as soon as we get those results. So there is special category if you have very high lipid levels, if you have very high albumin, if you have very high glucose over, you know, I don't know on top of my head what the cut off there is, but if you have very high levels they'll report on about six different conditions.

MS. AMICO: Okay.

DR. PAVUK: Clinical tests.

MS. AMICO: Okay. So I guess just to go back to that though, Pat you said like these people that are participating in the study are getting very, you know, specialized medical monitoring, but what about the people that aren't? You know, I think that's the concern is what can people do today in the absence of no study that has started yet and decades of exposure or years of exposure with high levels in their body with physicians that don't quite understand what these chemicals are and this ambig -- you know, ambiguousness around the science. What can people do today to protect their health, to

monitor their health, to try and look for any adverse health effects and, you know, try and, you know, catch something early or prevent disease or whatnot. So I think that's what we're missing and I just want to continue to stress that at every meeting, you know. And I understand, I know the physician fact sheet has evolved over time and it has updated over time but I just want ATSDR to hear that it's not meeting the needs of the community at this time and we need to continue to make it a priority, we need to continue to work on it and when we have these ten million dollars in two different installments coming in, is there any way to try and focus more time on that. And the other question I had was I've heard you, ATSDR, say several times that there's a lot of studies coming in every week on PFAS, it's hard to even keep up on them. But do you have a -- is there a dedicated person that is reviewing these studies so we make sure that we are looking at the latest and greatest science. If there is so much coming in, who is policing that, who's keeping track of that so these recommendations are real time?

DR. BREYSSE: So we get emails from somebody who collects all the published studies and send them

around to like 30 or 40 of us. I get them, Frank gets them, Marian gets them. I look at them every week, they look at them every week, we talk about them if we think there's something interesting coming forth as well. So you know, it's -- I'm sorry, it's our responsibility to stay on top of the science as we pursue this going forward because there could be something interesting that comes out that might change something or add something to what we want to do.

MS. AMICO: Okay. That's it in terms of medical monitoring. I don't know if you want to go on to the next item.

DR. BREYSSE: Sure.

MS. AMICO: So the next item was the Pease Air National Guard increased rates of cancer. So I had forwarded along a couple of articles but we had some recent articles in our local paper here about members of the Air National Guard at Pease both former and current talking about rates of cancer and having concerns about that and I just wanted to make sure that ATSDR was aware of that. And then also just inquire more about, you know, what can we expect in terms of what ATSDR may do now or in the future in terms of looking at rates of cancer among

military populations.

DR. BREYSSE: So cancer at any point is something that's as I said before, it's on our horizon for how we want to look at it, not just in air force personnel but in communities around with contaminated water as well. So that's all on our horizon in terms of a combined effort. But we get asked to assist states all the time in smaller cancer cluster concerns as well and we're prepared to assist, if we get asked to assist in investigations of cancer cluster here, whether it's at Pease or somewhere else. We probably get, you know, a dozen requests every year for cancer cluster investigations across the country for different types of cancer at different sites, different things and stuff. So the normal role for us is to come in and assist the state in that regard. We don't have a mandate to come in and look at it independently, so we're prepared to assist if we get asked.

MS. AMICO: Uh-huh. So how would that work in terms of if there's members from the Air National Guard at Pease they could initiate a consultation through ATSDR but they would need to start with the state of New Hampshire, even though it's Air National Guard?

DR. BREYSSE: Why would it matter that it's the Air National Guard, these are residents of the state?

MS. AMICO: I --

DR. BREYSSE: Or is it --

MS. AMICO: I guess. Yeah. I don't know. It's just this is a population that has come forward about it the most recent month or so to talk more about the high rates of cancer that they're experiencing amongst themselves and so if these folks have a concern and they want it to be looked into in more detail, what should they do?

DR. BREYSSE: We could talk to Dr. Chan about how that might proceed.

MS. AMICO: Okay.

CAPT SOMERS: Just like quickly, so yeah, I was contacted too by one of the Air National Guard folks that works there and I had a conversation with him about what we are doing for ATSDR for Pease so they're aware of the health consultations we're doing and the multi-site study. And also he's been linked in with the state with one of the cancer epidemiologists there so I think there will be an effort for the National Guard Command to talk about this within that arena. I can't speak for the

National Guard, I won't speak for them, obviously, but I think they're aware that there's this concern and they're, you know, trying to reach out to the appropriate folks to get some information on this for their members. It's a little bit challenging with cancer, because as you know like from the state cancer registries they're -- the state cancer registries, when you're diagnosed with cancer it notes where you were living at the time of diagnosis but it doesn't contain -- most state cancer registries contain nothing about like past occupational exposure or, you know, where you lived 20 years ago. So it's a bit challenging to look at a population like a National Guard population that doesn't live in that, you know, like they're not living like right in that commun -- right there. They could be living lots of different places. So when you look at the cancer registry it'd be really hard to pull out those folks. So I think it's --

MS. AMICO: is there another way to capture that data besides just looking at a cancer registry?

CAPT SOMERS: That's a good question. I think that's why the chronic disease and cancer epidemiologists are having that discussion with -- also with the National Guard.

MS. AMICO: Okay.

CAPT SOMERS: So I think it's on people's radar.

MS. AMICO: Okay.

CAPT SOMERS: Again, I don't want to speak for them 'cause... I thought someone may be coming tonight fr... Dr. Chans (sic) is here too but I thought someone from -- they said someone from them might come, I don't know if they're here though.

DR. BOVE: If they could determine who, you know, get an -- like I have at Camp Lejeune, a cohort. If we can identify those people who were at the base over time from personnel records. You have social security number, you have full name, you have date of birth, that's enough information for you to do matching, which is what we're going to do with the Camp Lejeune study. And so if you can get that information, if the Air National Guard was interested in doing something like this, I mean it is possible then to -- and if it's a large enough group so that you can do something meaningful. I mean, if it's a small group it's going to be hard to interpret the data because you only have a few cancers and you don't know what, you know --

MS. AMICO: What do you consider a large enough

group? Like I read in the articles they have about 62 people that they know among their group with different types of cancer. Is that considered a -- I don't know what you --

DR. BOVE: No, no, I meant the cohort itself being large.

MS. AMICO: Oh, I see. Okay.

DR. BOVE: Because if it's not large you will have a small number of cancers and particular there may be 62 cancers but how many are particular. I mean, in other words we do know or there is some evidence, for example, for kidney cancer, for prostate cancer, and from animal data at least, testicular cancer. If you saw 60 some kidney cancers that would be something, but if you see two then it's going to be hard to interpret, that's all I'm saying.

MS. AMICO: Okay.

DR. BOVE: So if you have a large enough population to study, like at Camp Lejeune I have hundreds of thousands, then I'm going to have sufficient numbers of at least some cancers to be able to interpret it. So it really would depend on how much data. First of all it would depend on whether the Air National Guard was interested in

doing this at all, I mean, that's the first thing. And that there'll be certain hoops that have to be, including IRB hoops and so on. I mean, it would be a study then. So you know, it's --

DR. CHAN: So that's getting, I think, a little ahead of things. We're -- so Tarah Somers is correct, our cancer program and chronic disease epidemiologist has been in contact with the, I believe the health officer for the Air National Guard and we're actually discussing and clarifying what exactly the questions are. My understanding is that the concern was not purely around PFAS exposure in drinking water but that it was a broader concern about environmental or excuse me, occupational exposures in general. I've certainly seen, you know, some of the news stories around this and people concerned about multiple different types of exposures. And so our program is in communication with the Air National Guard, we've been talking with Tarah Somers as well to clarify first what the questions are and then to look at how we might use the data that we have on hand to be able to look more into the questions and the concerns. As mentioned, it does become a little bit challenging because the cancer registry data, we have a very

good cancer registry, a very complete cancer registry, but oftentimes we look at place of residence and so we don't have necessarily complete or full data about occupational exposures and so it becomes a little bit tricky. But we're trying to -- we're looking into teasing some of these different aspects and questions out to see how we can address the concerns.

MS. AMICO: And are you folks interacting with anyone from the impacted community? You're talking about the Air National Guard health officer, but has anyone been in touch with actual members of the Air National Guard or their widows or, you know, people like actual community members? Because that's a critical piece of, I think, identifying questions is talking to the actual impacted people.

DR. CHAN: That's a good point and thank you for that comment. So far we've been in communication with some of the military personnel and the public health officer for the Air National Guard but not any of the individual members.

MS. AMICO: Okay. I would strongly advocate that you somehow have a mechanism for them because I think what we learned from Pease when we initially don't include the community it breaks down trust and

we don’t always come up with the best plans. So if I can strongly advocate. I know I have a couple contacts in the affected community that I think would be willing to participate in a proc -- or even a discussion with the folks coming up with the plan that would be a critical stakeholder that we should include in the process.

DR. CHAN: Thank you.

MS. AMICO: Thanks. I have two statements from people that couldn’t be here tonight but they did -- around this issue that they wanted me to read, so would this be an appropriate time to read that?

Okay. So one is shorter than the other, I’ll start with the shorter one.

(Reading) Hello Andrea, I was stationed at Pease Air Force Base as a security police officer from April 1997 until November 1990. I’m wondering if that’s a typo. During my tour the base was part of the strategic air command and it was a priority A nuclear alert base. My daily duty assignments kept me in close proximity to aircraft which were armed with various weapons and buildings that stored nuclear weapons and materials. During my time at the base I lived in a base dormitory full time. In regards to health issues while stationed on base I

only recall at some point suffering from bleeding gums consistently, something I had not experienced prior to residing on base. I separated from active duty in November 1990 after the base priority changed to non-nuclear. I was given the opportunity to be re-stationed and have my AFSC changed or separate honorably. I decided to separate and begin my law enforcement career and married Donna. In the spring of 2011 a tumor was discovered on one of my testicles. I sought medical attention at which time I was diagnosed with Stage 1 seminoma testicular cancer. I elected to have the tumor surgically removed within days of being diagnosed. To my knowledge there was no history of such cancer in my immediate family. I had consistently clear CAT scans until the winter of 2014 when my scans revealed the cancer had returned as Stage 2 in my lymph nodes. The best course of treatment was determined for me to begin an aggressive form of chemotherapy which ended in March of 2015. Since then I have had clear scans. I'm hoping that by sharing my story it will assist past and current military personnel. If you need any additional information, please feel free to contact me and Donna. Sincerely, Michael Coroluzo (ph). And he

lives in St. Augustine, Florida.

The next statement I have is from a woman that was featured in the first article about the Air National Guard. Her name is Doris Brock. She could not be here tonight; she lives in Colebrook, New Hampshire.

(Reading) Dear Andrea and CAP members, short bio about Kendall and Doris Brock. I began a battle with the VA in the late 2015. I am one of a general population that read in the newspaper or saw the news about the contamination of the wells at Pease. My first response was that this was terrible and I would go along living my life with my husband in the North Country; that is, until it became real for us.

My husband grew up in Candia, New Hampshire, and we were married for 46 years. We spent our married life in Candia until we moved to the North Country in 2012. We were looking forward to growing old together. Every day we woke up in a postcard, we made new friends in the North Country and we have many old friends. Kendall loved his new home and location, especially since retiring. I had my own small business and continued to work until Kendall became ill. I retired at the end of 2015 to become his fulltime caregiver. We remodeled our home with

the idea that we would grow old together in this home, not realizing that all the senior living amenities were going to be used so soon. We were a young couple when we were married, I am now 65 and Kendall was 67. We have two children, seven grandchildren and two great grandchildren and we love them all very much.

I, Doris, am the spouse of retired, deceased, Chief Master Sergeant Kendall W. Brock who died on June 30th, 2017 from Stage 4 bladder prostate cancer at only 67 years of age. He was a career New Hampshire Air National Guard member who retired after 35 years of service at Pease Air Force Base, now the Pease International Tradeport. The VA denied my husband's claim for disability, stating his illness is not work related, did not happen while employed, or within one year of retirement and is not tuberculosis. My fight with the VA is not your fight, but his story is related to your fight. I am compelled to share with you the importance of knowing what has happened to our military and career Guards men and women. It is directly related to your fight regarding the contamination in the groundwater in and around Pease.

The contamination at Pease did not rear its

ugly outcome while these men and women were employed and active at the base, while others were not affected until after retirement. There is some expectations where individuals were ill while active. I have a list of 70 people, all Guards men and women, that have had cancers and 40 of the 70 are dead.

What did I think of this? I was and am frustrated and extremely angry. This, in my opinion, is a high number for the few many people we know. The remaining 30 Guards men and women, whether retired or actively working today, may have survived their cancers as they are in remission while others are fighting their cancers today. Was there any study done? Did the air force know and ignore, hoping we would go away? I have heard that there were scattered studies or concerns over the years but I do not know the answer to these questions.

All 70 people having cancers are organ type cancers. They include kidney, liver, bladder, pancreatic, prostate, breast. Some of these people died very young while on the job while a good number died after retiring from the Air Guard, but less than 70 years of age.

With all the publicity and documentation regarding the Pease contamination, I do not see much written or videotaped about the Air National Guard bomb squad and the families that are suffering or that have suffered losses. We are the grieving and the forgotten population. I do not even know how many families are affected that were in the Air Force that left in the 1990s or the remaining New Hampshire Air National Guard population that I did not know.

I have read in some of the meeting notes small bits of information regarding our service members. There is not enough being done to gather information about our service men and women. I believe this history of our men and women is important to all of you.

I find it interesting that when I first started this fight that when you ask questions our politicians tried to be sympathetic and then you mention Pease and their look totally changed to oh no, she is going to ask. But I will say that Senator Ayotte and Senator Shaheen have been helpful in getting me to the right people or keeping me in the loop for any new legislation. This is not helping me with the VA. That is a separate fight

and one that I am actively going after today for all the men and women who served. It is very frustrating to learn of the process to get help from the general population. It amazes me how many people you talk to that if not affected don't really care. I received an email from Senator Shaheen's office that lead me to Andrea Amico. I spent some time reading the last CAP meeting notes from May 2018. I was taken in by the comments in this meeting and I felt compelled to reach out to Andrea. I knew about Andrea from news articles over a year ago. I could not reach out to her then as I was burying my husband and had to deal with my own breast cancer. I had surgery two weeks after his death. I also thought I could not continue the fight. My husband's death and others, the fight consumes you every waking moment and I wanted to quit. There is not a day that goes by that I am not thinking of my husband and the life we were to have together. We, the surviving spouses of significant others are angry and frustrated and more important, we are scared for the people who have been exposed to these wells or any other ground contaminate. I am personally thankful and blessed that Andrea Amico agreed to reach out to me. Senator Shaheen is my

current contact with the government. She has introduced legislation that addresses the beginning of cleaning up the water contamination, as you know, but I want to make a statement to the population of what may be ahead for them. Today no one can tell you the contamination will or will not affect our children and our sea coast residents. In my opinion, it affects the residents of all surrounding towns including Hampton, Greenland, Rye. I want everyone to be aware that the dangers of this exposure are a problem in the long term.

No one wants to say that the well contamination is going to affect you. They became contaminated from more than firefighting foam, chemicals used by the Air Force and the Air National Guard to clean airplane parts, vehicles, and other equipment have been used and absorbed in your ground water, absorbed into the skin by the men and women who worked with these chemicals and through the air by breathing these chemicals. JP4 and JP5 jet fuels are known carcinogens and my husband worked in petroleum oils and lubricants for several years before going to aircraft maintenance. While in maintenance he worked with these solvents and chemicals which are listed on the ATSDR website as

known carcinogens.

As an example of this in the New Hampshire Air National Guard was exposed to PD680 degreasing solvents that was used to spray on aircraft during washes. They used protective face masks, however, those fumes could be absorbed through the skin and through the breathing of the vapors that were sprayed under pressure. They also had a solvent PD680 parts wash tank that personnel stored over many times to clean grease from aircraft parts such as filters, wheel bearings, et cetera. Just standing over the tank as they brushed the parts clean was enough to inhale the solvent. They had rubber gloves and face shields but were still breathing the fumes. It is safe to assume that if they were spraying the solvent or dipping parts in the solvent that there was overspray or spillage over many years contaminating our ground water. Yes, and this is only one of many chemical compounds. I found using Google Search reputable sites where this cleaning compound was used in the dry cleaning business and you will find a huge number of class action lawsuits and more important the number of people that died from cancer, specifically organ cancers.

The New Hampshire Air National Guard used the following solvents, cleaning compounds, petroleum products at the 157th Air National Guard phase inspection dock, and I know the 509th air force used the same. The list of chemicals used on any airbase in the U.S. or internationally at our bases oversea. And she lists trichloroethylene, JP4, hydraulic fluid, Mil H5606, jet engine oil, Mil L7808, Mil PRF680, naphtha, benzene, acetone, methyl, ethyl, ketone, toluene, glycol zinc chromate and xylene.

All these can be found on the ATSDR website, interesting reading. The government was aware of the danger of these chemicals but is just now publicly recognizing the issues with our ground water. In my research I found documents going back to 1997 from the DOD that lists the contaminated bases. There are also documents showing concerns going back to 1967. Yet again, we do not read or hear of anything publicly concerning the illnesses in our armed services.

I am frustrated as you should be and probably are. I understand we need to have a study and data to support any activity to document and report on the contamination. What happens to the study and data when we elect other officials in the

government? What happens to the funding needed to get this done? I had to restart my fight with Senator Ayotte when she lost her seat. It was as if I had done nothing for two years. All I had accomplished did not mean anything. It is then that I contacted Senator Shaheen's office and began the process all over again. Therefore, my frustration, outrage, and sadness at how our government works.

I received information from a friend that discusses the long wait and see periods from exposure to jet fuels. This was a study that listed the results in April 2014. The cancers were organ cancers and were invasive cancers both small cell and non-small cell. This data was an age study and the average age of air force members was 55 to 70. Is this not something to worry about since these men and women began serving our country at an early age? I am expecting and fearful that there will be long wait and see periods from this contamination as well. I am frightened for your children and you. There are 126 bases on the list of Superfund sites. Pease is one of the bases, yet I have only read that Camp Lejeune -- Camp Lejeune has accepted grant VA disability based on presumptive diseases, the exact same illnesses I listed above.

There are articles that appear on ABC news, CBS news and other newspapers and online publications. These articles express concerns for low birth weights and fertility organ cancers and the list go on, yet they seem to be ignored by our government. If not ignored, are they delaying or waiting for our retired active population to die? I could go on forever but will close with other interesting facts. New Hampshire has the highest bladder cancer rates in the country, the highest rate of children with cancers. Most recently an article about childhood brain cancers. I read the articles and news reports on the cancer clusters over the last two years, conclusion is that these are not related to anything specific and we just don't know. And what I heard on the news was that these concerns did not result in identifying a cancer cluster. I ask you, are these illnesses simply coincidence? I will close with the fact that each day is a -- is beautiful here in Coos County, though I am not without my best friend. I will do whatever I can to help. My plan is to begin attending the meetings when available. I was not able to attend this meeting and Andrea is reading my statement to you. We can -- we can be still or silent on this matter. Our futures depend

on the gathering data, acting on this data, enlightening our population about this ground contamination and being diligent and fighting for our children. We need to address the need to study the deaths of our service men and women and those that are still with us and those who are not ill today. We can learn from this and share with all of you. For those on the seacoast or those who have moved away, the wait and see periods related to this contamination are long, the cancers and illnesses develop from five to thirty years after having been exposed. Please talk to people around you, get them involved, get them to understand the potential dangers. This population should be afraid for their children and their future. We need to educate, create a loud voice and act now. Respectfully submitted, Doris Brock.

DR. BREYSSE: Can you send me copies of those two letters?

MS. AMICO: Uh-huh.

DR. BREYSSE: Thank you. That’s powerful. So we’ll continue to see what we can help sort out about the cancers going forward.

MS. AMICO: Thank you.

DR. BREYSSE: Any other issues or comments?

We’re a little bit early, but not when you figure we didn’t take a break, but...

MR. LAUDER: If I would be able to say something? My name is Ken Lauder. I also (inaudible). I’m retired Air Force here at Pease in ’90.

I’ve been back here with PanAm for five years on the same base. When I came back in 1999 there was papers that were taped to the water fountains and they had a skull and crossbones on them telling us don’t drink the water. I was here for five years with PanAm. I left, I came back again, I was a security manager with the New Hampshire Air Guard for the past five years from 2014 to 2016(inaudible) Stage 3 in 2017. They gave me three to five years even if the chemo didn’t work. They hit me with everything they could, full strength of the chemo and the whole bit and as of about the time I wrote Andrea a letter they tell me right now I’m good. So I worked with Chief Brock, all the chemicals they mentioned we had. We had stainless steel tanks in PD680 we used all the time in that hangar when I was in the Air Force and the air guard. Like she said,we washed the parts. I’m not going to go through all that again. It’s all covered by what we

did (inaudible) fuel, the whole bit, everything. Air guard tanker exploded down there in 1990; I was the chief investigator on that. I was in (inaudible) quality assurance at the time. We were wading through foam up to our knees. Years later when I was with the air guard the fire department asked me if I still had the pictures, they wanted the pictures of how much foam was on the ground. I thought they wanted them for training purposes for the fire fighting. They wanted to know how much foam got washed down the drains. So I gave them.

J.D., another gentleman I flew with, worked with, is now gone, pancreatic cancer. It's a serious issue. I'm lucky so far, I'm still here. I'm fighting, I know a lot of guys that are, and it does seem to get shoved right under the rug. All the VA wanted to talk to me about was Agent Orange. I flew on B52s, we didn't carry Agent Orange on B52s. It had nothing to do with Agent Orange. That's all they wanted to ask me about was Agent Orange. They didn't care about lymphoma, they just wanted to know if I had exposure to Agent Orange. But I know a lot of guys that are probably in the same boat I'm in right now. I'll be 70 years old here next month so, I mean, you know I wasn't -- I

got through this so far. Scared me to death when I feel I'm doing a job and next thing they say I go for my numbness in my arm, you've got Stage 3 lymphoma, you have about three years maybe. That's how it was put to me, you know. Like I said, so far I'm lucky, but please take this serious. It's serious. These guys -- I did 24 years, I mean, we did (inaudible) for this country and we were up to this over our neck doing our job just every day and now, like I said, Chief Brock wants to retire and their grandchildren. Nothing we can do about it, the VA, that's our problem, you know.

It was your job, you chose to do it. That's true, we did. I enlisted, I didn't get drafted but I did my job and so did these other (inaudible). Please investigate it, check it out for these people. That's all I have. Thank you.

DR. BREYSSE: Thank you. Anybody else?

MS. AMICO: There's the woman in the back.

CDR MUTTER: She can come to the microphone.

DR. BREYSSE: Can you come up to the microphone, ma'am, so we can hear you?

MS. EATON: You were just speaking about Chief Eaton. I'm Chief Eaton's widow. I'm Nancy and I'm just going to read a small little snippet that I

prepared.

My name's Nancy Eaton, I'm the widow of Chief Master Sergeant David L. Eaton, a veteran of Vietnam Persian Gulf and Rocky Freedom serving in the U.S. Air Force for 40.7 years with the 157th Air Refueling with Pease Air National Guard Base here in Newington.

My husband was healthy all his life until his life was cut short three months after turning 63. I was suddenly a widow at 60 and our kids lost their dad at 26 and 29. My son's a police officer and my daughter's a teacher. David's pancreatic cancer with metastasis to the liver probably grew slowly for up to 20 years, the symptoms, you don't have any till it's too late. He worked with the Guard since he was 19, first as a weekend citizen soldier and in 1970 became a federal worker. He was regularly exposed to chemicals and x-rays on a daily basis as an airplane mechanic. He also drank the water daily in coffee and believed the exposure very well may have contributed to his cancer.

At the time of his death on October 5th, 2012, the survival rate was seven percent, now almost six years later, it's nine percent.

My husband originally worked as a mechanic on

airplanes and on flight line and also quality assurance. He was the supervisor in both sections. In October 2004 David retired from civil service, continuing in the military as Wing Command Chief of New Hampshire Air National Guard. He was the liaison between enlisted and military officers. He was very good at what he did and was known all over the country for his mentorship. He was the ultimate American airman who found his security and niche in the military. He loved every second of the over 40 years that he proudly served his country and we're very proud of him. Unfortunately, my husband and I never had the chance to retire together, take a couple of trips, nor build our retirement home. You never get over this, you simply learn to live within the pain. Sadly, my kids will miss their dad a lot longer than I will. My husband saw the loss of several of his comrades due to various types of cancer. I do remember a couple with brain tumors, lung cancer, cancer of the mouth, jaw, breast cancer, and many more. There have been some that have survived and surely they fear its return. I knew Ken Brock since I was a young girl in my 20s. I worked in the medical field and he brought his grandfather in. He was a lot like my husband David,

knew his business and was a straightforward person. I'm saddened by his loss and I commend his widow, Doris, for questioning why this has happened to our valued servicemen. Chief Eaton and Chief Brock served their country without question, never thinking their lives could be cut short due to carcinogens on the job. Our families deserve answers as well as preventing this from happening again. Thank you for allowing me to speak.

DR. BREYSSE: Thank you, ma'am. Can I get a copy of that, please?

MS. EATON: Sure.

DR. BREYSSE: Anybody else have anything to add? Thank you, we'll adjourn.

(Proceedings concluded 8:35 p.m.)

CERTIFICATE OF COURT REPORTER

STATE OF GEORGIA

COUNTY OF FULTON

I, Steven Ray Green, Certified Merit Master Court Reporter, do hereby certify that I reported the above and foregoing on the day of Sept 20, 2018; and it is a true and accurate transcript of the proceedings captioned herein.

I further certify that I am neither relation nor counsel to any of the parties herein, nor have any interest in the cause named herein.

WITNESS my hand and official seal this the 22nd day of Oct, 2018.

Steven Ray Green, CCR

STEVEN RAY GREEN, CCR, CVR-CM, PNSC

CERTIFIED MERIT COURT REPORTER

CERTIFICATE NUMBER: A-2102