THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Agency for Toxic Substances and Disease Registry (ATSDR)

convenes the

SECOND MEETING

CAMP LEJEUNE COMMUNITY ASSISTANCE

PANEL (CAP) MEETING

APRIL 20, 2006

The verbatim transcript of the Meeting of the Camp Lejeune Community Assistance Panel held at the ATSDR, 1825 Century Boulevard, Atlanta, Georgia, on April 20, 2006.

C O N T E N T S

April 20, 2006

TRANSCRIPT LEGEND

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-- (sic) denotes an incorrect usage or pronunciation of a word which is transcribed in its original form as reported.

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-- "uh-huh" represents an affirmative response, and "uh-uh" represents a negative response.

-- "*" denotes a spelling based on phonetics, without reference available.

-- “^” represents inaudible or unintelligible speech or speaker failure, usually failure to use a microphone.

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

(alphabetically)

BOVE, FRANK, ScD, ATSDR
BRIDGES, SANDRA, COMMUNITY MEMBER
BYRON, JEFF, COMMUNITY MEMBER
CLAPP, RICHARD, ScD, MPH, INDEPENDENT SCIENTIST
DYER, TERRY, COMMUNITY MEMBER
ENSMINGER, JERRY, COMMUNITY MEMBER
FISHER, JEFFREY, PhD, INDEPENDENT SCIENTIST
MARTIN, DAVE, COMMUNITY MEMBER
MCCALL, DENITA, COMMUNITY MEMBER
RENNIX, CHRIS, CIH, ScD, NAVY ENVIRONMENTAL HEALTH CENTER
ROSSITER, SHANNON, MPH, ATSDR
RUCKART, PERRI, MPH, ATSDR
STALLARD, CHRISTOPHER, CDC, FACILITATOR
TENCATE, MIKE, LtCol, U.S. MARINE CORPS
TOWNSEND, TOM, COMMUNITY MEMBER

P R O C E E D I N G S

(9:00 a.m.)

WELCOME, INTRODUCTIONS, PROCEDURES, RECAP OF FEBRUARY 2006 MEETING

CHRISTOPHER STALLARD

MR. STALLARD: Please make sure that your microphones are on. Welcome back. We've learned something from our last session together, and that is that we all have to speak into the microphones very clearly so that our court reporter can accurately capture the proceedings.

Okay. Welcome back. My name is Christopher Stallard. I am your facilitator, again today, being our third time together. We have an agenda that I think you've all seen in advance. Let me go over -- another thing we learned is that we're on IPTV, so hello to everyone out there who's watching. We had some people in Washington, D.C., as you know, who are interested in this issue and this panel. And they were not able to see very well our first meeting, so we had to modify somewhat where we stand, sort of like stage management here.

So let me go over the operating guidelines, remind you of what we -- what guides our interaction together. One speaker at a time. Speak into a working microphone. If we have to, we'll ask you to hold your comments until we can pass the microphone to you. We are starting, as

you see, on time. We are going to end on time. Thank you. Thank you for being here and starting on time.

Strict adherence to break times. We have zero flexibility on that. So if you're in mid-sentence at 10:15 when we break, we're going to break. Please -- I'll give you the hi-five or the signal that we need to do that. This is because the people who are on IPTV are operating based on the agenda as it has been established, okay?

Focus on topics under the CAP purview. We have met several times now, and we are narrowing in on actionable items. And we want to keep that momentum moving forward on what will be done. So I ask -- we implore you to let's stay focused on those things that we can do and identify those things that might not be under the purview of the CAP, but that should be addressed by perhaps some other competent authority.

And that brings me to cell phones. That's okay. I'm going to jump the order there. Cell phones or BlackBerry, any types of electronic devices that create a sound, please turn the sound down and put it on silent, stun, or off. If you need to, you may step out; you manage your own time.

Audience is here to observe only. We welcome you here, we're glad that you're here to observe these

proceeding; however, your role is to observe only. If you wish to interact, you certainly may do that during breaks or after the session is completed. Any other guidelines that you would like to offer at this time or any clarification? Okay. Good.

Now, we work in a bureaucracy, folks. So I have to go over some housekeeping rules. This is make or break. If you want lunch today, you have to make your selection and give your money by the first break at 10:15. Travel orders. Plan your trip very carefully; changes only in emergencies. In other words, when we decide what the next date is going to be at the end of today, we're going to come to a consensus on when we're going to meet next, please plan your trip and try to stick to that itinerary. It's unbelievable now in terms of federal travel management and some of the processes we have to go through just to amend basic forms. So please plan accordingly. Likewise, register by the deadline of the specified date due to security procedures. We want that. Basically, we know who is coming, they committed to the meeting, and we can go through one process that says these are the people who will be coming.

Vouchers. As I understand it, in the last meeting there was extraordinary effort to get travel advance in order to bring you all here. That is extraordinary

effort outside the normal protocol of how we conduct these meetings. We are in jeopardy of not being able to do that for you if we do not receive your vouchers for reimbursement and whatever expenditures in a timely fashion. That means as soon after you complete this trip as possible, okay? Please help us that we may continue to facilitate your ability to come here.

Okay. Lastly, meetings and discussions with our subject-matter experts, as you know, are encouraged. We have time prior to the meetings and time after the meetings. So you are encouraged as a group to meet with the subject-matter experts to help develop framework strategy, questions, answers, things like that. We would like to honor this time that we have together between the meeting times to stick to the agenda that we have. We understand you want to meet with people today. We'll try to work that in at the break or during lunch, okay? That's it on the administrivia.

We have new members today at the table. So what we'll do is we're going to go around, speak into the microphone, introduce yourself and the organization that you represent, and then we'll get into the rest of the agenda. Thank you, Jeff.

MR. BYRON: Good morning. My name is Jeff Byron. I'm a CAP member and I represent The Few, The Proud, and The

Forgotten.

MR. ENSMINGER: I'm Jerry Ensminger. I'm a CAP member.

MS. McCALL: Good morning, Denita McCall, CAP member.

MS. RUCKART: Perri Ruckart, ATSDR, Camp LeJeune study.

DR. FISHER: Jeff Fisher, expert, toxicology.

MS. BRIDGES: Sandra Bridges, CAP.

DR. BOVE: Frank Bove, ATSDR Division of Health Studies.

MR. MARTIN: David Martin, the CAP.

MS. DYER: Terry Dyer, the Stand, CAP member.

MR. TOWNSEND (by telephone): Hello?

MR. STALLARD: Yeah, we'll get to you, Tom.

DR. RENNIX: Chris Rennix, the epidemiologist for Navy Environmental Health Center.

MS. ROSSITER: I'm Shannon Rossiter. I'm with ATSDR Division of Health Studies.

MR. TENCATE: Mike Tencate, United States Marine Corps.

MR. STALLARD: Thank you, Mike.

MR. TOWNSEND (by telephone): Hello?

MR. STALLARD: Yes, Tom, hello.

MR. TOWNSEND (by telephone): Yes, I'm here.

MR. STALLARD: Yes, please --

MR. TOWNSEND (by telephone): Tom Townsend, CAP member.

MR. STALLARD: Welcome.

MR. TOWNSEND (by telephone): Thank you.

MR. STALLARD: Any other questions before we proceed?

Any?

MS. McCALL: Do we know where Dr. Clapp is?

MR. STALLARD: No, we do not know. We do know that he arrived last night, and we do expect him momentarily.

MR. ENSMINGER: Does he have a cell phone?

MS. DYER: Call the hotel?

DR. BOVE: Yeah, I don't have my cell phone with me. I could go to my car and get it to see if he left a message.

MS. DYER: Can we call the hotel?

MS. RUCKART: Do you want to run out and do that?

DR. BOVE: Yeah, if you don't mind.

MR. STALLARD: No, please stay with us because we're just going to briefly go over and Perri is going to give her overview, which he probably has seen before. Okay. So let me just briefly recap. We had our first meeting last -- when was that? February. And there was a good opportunity to start to get to know each other and work together and figure out how we're going to work together. The outcome at the end of the day was that we basically identified as is the charge of this group potentially scientifically credible topics for further research. And if you'll see on your agenda the three action topics, if you will, that came out that meeting were scientifically credible studies, potential endpoints, populations to

address, and then we talked about notification and PSAs, and then we talked about prevalence surveys and web-based.

So what we are going to do today is to focus on those three areas in that order, in order to develop a strategy of action to guide our future efforts. Is that to everyone's understanding?

MS. McCALL: Could you say that one more time?

MR. STALLARD: Which part?

MS. McCALL: I'm sorry. I didn't catch the last part before you said does everybody understand that.

MR. STALLARD: I guess I could ask the court reporter what I said. It was a stream of consciousness. But I think that what I said was that we had identified these three main areas that you can see on the agenda: Scientifically credible studies, notification, PSAs, prevalence surveys. These three items will guide our interaction and dialogue today to the degree that we can develop strategies around them.

MR. ENSMINGER: I thought it was agreed upon in the last meeting -- Jerry Ensminger -- that Dr. Clapp was going to give us a brief on the prevalence studies.

MR. STALLARD: Are you prepared to do that?

DR. CLAPP: I'm happy to do it, yeah.

MR. ENSMINGER: I don't see it on the agenda.

DR. BOVE: You can raise these issues during when we discuss prevalence studies. Prevalence studies is on there. There was no presentation. We didn't talk about having Dick give a presentation, but certainly Dick can give a presentation when we get to that part of the agenda.

MR. ENSMINGER: Okay.

DR. BOVE: Okay?

MR. ENSMINGER: All right.

MR. STALLARD: And let us welcome -- well, we did introductions so if you -- and we said we're all speaking into the microphone. This is a lesson learned from the last time.

DR. CLAPP: I'm Richard Clapp. I'm sorry I was late. I was actually headed off in the wrong direction from the hotel, got disoriented by the construction, and got in at 2:00 a.m. from my flight. But other than that I'm here. I'm happy to participate.

MR. STALLARD: Great. Thank you. Welcome. All right. So that plans pretty much how today is going to go, what we're focus on, who's here, and let's get into then Perri will give us an update on the current study and processes for future studies. Thank you.

UPDATE ON CURRENT STUDY AND PROCESSES FOR FUTURE STUDIES

PERRI RUCKART

MS. RUCKART: Good morning. Tom, I want to apologize in advance. I didn't send you these materials, but we can get them to you right after the meeting.

MR. TOWNSEND (by telephone): Okay. Thanks.

MS. RUCKART: Sure. Everyone else, there are handouts on the front table, so ... We're just going to discuss what's been going on since the last meeting.

And I want to talk about the feasibility assessment that we're trying to plan.

As everyone is probably aware, the February 2005 expert panel recommended that ATSDR identify cohorts with potential exposure. This would include adults who lived on base, adults who resided off base, but worked on base, and children who lived on base. So in response to that, ATSDR submitted to DOD a proposal for a feasibility assessment to help identify these cohorts. And there are several steps necessary to accomplish this. And I want to point out that at each step ATSDR will consult with the CAP and receive feedback from the CAP.

So step one, ATSDR needs to determine whether data are available from the Defense Manpower Data Center, that's called DMDC, and see if this can be used to identify members of each of the cohorts I just mentioned. And we want to see if data are available on these cohorts as early as -- the early 1970s, and ideally even before

that. And data items from the DMDC database need for linkages with health outcomes databases such as the National Death Index, which we call the NDI, or state cancer registries, include the name, the date of birth, and Social Security number. And data items needed from this database to link with the base family housing records include the name, duty location, dates of service, and the sponsor.

Another step that we need to accomplish is to complete the computerization of the base family housing records. There are approximately 90,000 records. To date, slightly more than 12,000 were computerized for use in the previous study of adverse birth outcomes; however, all of the data for those 12,000 records may not have been computerized. The variables that we want to computerize included the occupant's name, rank, and dates of residence.

Then we will assess the feasibility of linking the family housing occupancy data with data from the DMDC. The linkage would bring together the necessary information on exposure status, with information necessary to link with health outcomes databases, such as NDI and cancer registries. And for Marines who did not reside in family housing, their drinking water exposures will be assigned based on information from the water

modeling project and DMDC data on duty location and dates of service. If data are available from the DMDC on family members of the active and retired Marines, then we'll also be able to link those data.

ATSDR will also explore the use of the Career History Archival Medical and Personnel System, which we call CHAMPS -- or they call CHAMPS, to evaluate adverse health outcomes other than mortality; because we can evaluate mortality using the National Death Index. And CHAMPS has data on cancers and other chronic diseases, we are told, going back to the early to mid 1970s.

MR. ENSMINGER: Can I ask you a question about that?

MS. RUCKART: Yes.

MR. ENSMINGER: Dr. Rennix?

DR. RENNIX: Yes.

MR. ENSMINGER: The CHAMPS, if I've not mistaken, only covered active-duty people, correct?

DR. RENNIX: That's correct. While they were on active duty, yes.

MR. ENSMINGER: So once a guy or a girl got exposed to this stuff, say they did one or two tours in the service and got out, CHAMPS isn't going to show that.

DR. RENNIX: That's correct.

MR. ENSMINGER: And we know that the latency period for effects of this stuff is some 20 to 30 years.

DR. RENNIX: Some of them can be short as 5 years, but up to 20, 30 years, yes.

MR. ENSMINGER: So CHAMPS isn't going to do us squat for those people, right?

MS. RUCKART: Jerry, that's why we're also going to look at the NDI and the cancer registries. That's just like a first step. We're going to use the DMDC, hopefully, to identify people who passed through Camp Lejeune and CHAMPS is just one other resource we can explore for health outcome data, along with the NDI and the other cancer registries.

MR. ENSMINGER: Okay.

MS. RUCKART: So as discussed, there's advantages and limitations of using CHAMPS and we would compare what we get from CHAMPS with data on cancers from several state cancer registries that we discussed last time: California, Ohio, North Carolina, New Jersey, Pennsylvania, Texas, where a lot of Marines have retired.

So I also want to let you know that we've contacted CHAMPS staff to see if they could run a very quick preliminary analysis of CHAMPS health data for Marines stationed at Camp Lejeune during 1974 to February 1985 or earlier if available to identify possible health endpoints for further study. Just to get a general sense of the health status of the Marines stationed at Camp

Lejeune compared to Marines who were never stationed at Camp Lejeune, keeping in mind that the comparison would not take into account whether the people at Camp Lejeune actually got the contaminated water, but just to see just really quickly if we even see something to begin with. And the response we got back from CHAMPS was that the data was only available from 1980 on, so that would give us five years. Now, that's something that we can discuss later on this morning, but I want to point that out -- what can we do with that? Just keep that in the back of your mind.

DR. BOVE: Actually, it would give us more than five years because there are people in the CHAMPS data set, it's just that their health information wouldn't start until 1980. So depending on how many people they have in the CHAMPS data set, you know, and any health effect of these people from 1980 on would be available. So we still think it might be useful. We'll continue to look at it. We'll discuss it here, too.

MS. RUCKART: So based on the activities that I just discussed, ATSDR and the CAP will have the information necessary to deliberate on the feasibility of conducting additional studies. And the things we need to consider are the size of the study population that we can identify and then potentially study, the ability to determine the

exposure status for the study population, the ability to obtain and confirm health information on outcomes of interest that are biologically plausible, and the ability to evaluate risk factors that could potentially confound the data. And these risk factors would include age, sex, and race/ethnicity, which can be obtained, most likely, from the available databases. However, information on other risk factors such as smoking and occupational exposures could only be obtained by interview. We may be able to conduct interviews of a subset of the population, which we could do in a case-control study. However, it will depend on the ability to find people, their current addresses, and then also we need to take into account if people are deceased, if we could interview their next of kin.

So the first few steps that I mentioned will determine the size of the study population, those cohorts mentioned by the expert panel in February 2005, that can be identified and assigned an exposure status. The goal is to identify as many of the potential study participants as possible using the computerized databases that go back as early as the mid to 1970s and ideally prior to that. And then as I discussed in step four, then the feasibility of studying the particular biologically plausible adverse health outcomes will be

evaluated.

Some things I just wanted to mention to you, just to keep in mind for when we have our discussions later on, about 20 to 30 percent of the survey cohort that we contacted during 1999 to 2002, so that's one to four years ago, did not have a forwarding address when we went to send them the report of the telephone survey in summer 2003. So at this point, about 20 to 30 percent of those 12,598 cases are not locatable. And that's recent, fairly recent, you know. We're talking about something that happens in 1999 to '02; here we are not able to locate them.

MR. ENSMINGER: I have a question on that. When you did the surveys on these people, did you not get their Social Security numbers?

MS. RUCKART: I don't believe we ask them for their Social Security number. We did?

MR. ENSMINGER: I believe you do have their Social Security.

MS. ROSSITER: We have the military members' Social Security number, --

MR. ENSMINGER: Yeah.

MS. ROSSITER: -- but that doesn't always get us to the survey respondent.

MS. DYER: It does if they --

MR. ENSMINGER: Yeah, but I mean if you get a hold of the service member, they are going to be able to connect you with the people you're trying to get a hold of.

MS. RUCKART: That's actually not always the case because you have to remember some of these people were married 40, 30 years ago and they don't actually keep up with their former spouse. It's just the reality, so --

MR. ENSMINGER: I do for protection.

MS. BRIDGES: You have to.

MR. ENSMINGER: You know, let's face it, you know, the IRS can find me. These people, if you have their Social Security number, they can be found.

MS. RUCKART: Well, you may think that, but in reality 20 to 30 percent of these people could not be found. And we did -- as we discussed last time -- you know, extensive searches to try to locate people and that's a sizable number, you know, 20 to 30 percent. I just want to point that out to you for when we talk later on about, you know, ways to contact people and how we can get about that. So I just wanted to mention that. We can talk more about that later.

Also, I wanted to point out that approximately 30 percent of the self-reported cases in the survey were confirmed to not have the reported condition. So I just want to point that out. That's why it's important to

verify the cases. We can't just go by self-report. We need to get medical records. Also, approximately seven percent of the self-reported cases in the survey refused to participate further and provide medical records. And what we learned when we were conducting the study and the interviews last spring and summer is that at least 25 percent of the study respondents were not able to provide detailed address information for 1968 through 1985. Things that they couldn't provide were the months and years when they lived at certain residences or the exact address where they lived. So we have to remember that we're asking about something that was 30, 40, 20 years ago and everyone's mind is, you know, may get a little fuzzy on those details, which is understandable.

MS. BRIDGES: But the government has it, the records. They filed Social Security. They filed income tax.

MR. ENSMINGER: No, their housing records will be in the service members' record book. There was a page three and page eleven entry made in my record book when I was assigned housing and when I was -- when I vacated housing. There's also entries made in pay records because your BAQ stops; when you vacate housing, when you clear housing, your BAQ starts again. So that information is available.

MS. RUCKART: The one thing though is that's for the

sponsor and in our study we were most interested in where the mother lived and she didn't always reside at the same exact place as the sponsor, so we wanted to verify. We do have a lot of information from the housing records on the military member and then we would confirm with the mother of the study child, did you live there? And sometimes they'd say yes, sometimes no. And then even when it was no, they were fuzzy on where they did live. They know it was different, but...

MS. BRIDGES: And household moves.

MS. RUCKART: Right.

MS. BRIDGES: They paid to move them.

MS. RUCKART: Well, there were a lot of moves and people --

DR. BOVE: Let me explain a little bit. Often times the woman may not have moved with the sponsor, but instead lived with her mother, her parents, during the pregnancy. This is an issue with our current study. That's why we asked the question, you know. You're married to this person, they have this -- we have in the housing record that they lived at this address during this period. Did you live there? And sometimes we'd get no, we didn't live there. We lived somewhere else during the pregnancy. So that happens. It just happens.

MR. ENSMINGER: Yeah, but how often?

DR. BOVE: That's why we asked the question. I don't know how often.

MS. DYER: More often than not?

DR. BOVE: We can look at that. We have the data for it, but the issue is not that. The issue really is is what housing information we do have. The housing information we do have is from the base. It's on index cards, and we computerized some of it for the previous study and we're going to computerize the rest of it. But it includes name, rank, period you were there, street address for the sponsor, okay.

And what we'd like to do is link that name, right, with the information that's in the DMDC and other databases. The problem we can talk about later is that at least in the early years of the DMDC database is that they don't have full name. That's going to be a difficulty.

MR. ENSMINGER: Yeah, but this thing about people living elsewhere when they're assigned base quarters, that's got to be the exception and not the rule.

DR. BOVE: Not for the woman who is pregnant, necessarily. I don't know the percent, but it's not unusual.

DR. RENNIX: We did look at this in another study that we did on spontaneous abortion and we found that if the

service member is deployed that the wife would go home. So she would find out she's pregnant, she'd spend a few months there, and then she'd go home. There's no support for her there in the house. So it happens, but there are conditions for that. So it is rare, but it's very easy to travel in the states.

I did my study in Japan where the guy would go out on the ship and the wife would take off and go back to the states. So they'd have a record in the OB/GYN clinic that they were pregnant and then no delivery because they delivered at another military hospital someplace back in the states. So it does happen. But you're right, it is the exception and not the rule.

MS. DYER: Can I ask a question? How far -- and this might have been mentioned already -- Terry Dyer, CAP -- How far do the housing records go back?

DR. BOVE: That's part of what we need to computerize. In the previous study they were only interested in going back to '68. But in looking at the computer file I noticed that it went further back for some entries. So I assume that it goes back before '68, but I'm not sure exactly how far back.

MR. ENSMINGER: Well, Tom Townsend, who's on the phone, he's got every one of his assignments to housing. He sent in a FOIA and they came up with the information. I

mean, just like that.

MS. DYER: And Tom was there in the 40s or 50s, I mean?

MR. ENSMINGER: Fifties. He's not that old.

MS. DYER: I thought he was. Just kidding.

DR. BOVE: Well, that's one of the things that we need to talk about is --

MS. McCALL: Remember, he's listening.

MS. DYER: I know.

DR. BOVE: -- where this data exists. What we do have are these housing records, you know. And we'll have to see if there are other data sources as well.

MS. DYER: Is this something the Marine Corps would provide to us then?

MR. TENCATE: The records?

MS. DYER: The housing.

MR. TENCATE: Absolutely.

MS. DYER: Okay.

MR. TENCATE: And I think the point that Perri's making is that we're using all the records we have available to us, but there are some limitations to what those records contain.

MS. DYER: Then how far does the housing go back?

MR. TENCATE: I don't know off the top of my head.

MS. DYER: But you can find that out and get that information to them?

MR. TENCATE: We can find out what we have, yeah.

MR. STALLARD: How far back does Tom's go? Hey Tom, how far back do your housing records go?

(no audible response)

MR. ENSMINGER: Tom?

MS. DYER: Wake up.

MR. TOWNSEND (by telephone): What's that?

MR. ENSMINGER: How far back do your housing records go?

MR. TOWNSEND (by telephone): I lived there in 1955. The Marine Corps didn't own that property -- it was a rental housing at that time. I've got my records from '67 -- no, '65.

MS. DYER: Now, I can state this: When Marie Socha was involved with the ATSDR and I first got involved in this, when I called her, gave her my dad's Social Security number, she pulled up every house that we lived at and we moved onto to Bogainville in 1958. She knew the address of the Bogainville, she knew my Chosen Circle, and both had good addresses.

MR. TOWNSEND (by telephone): Oh, did they?

MS. DYER: Yes.

MR. TOWNSEND (by telephone): I frankly did not ask for that far back.

MS. DYER: Yeah. That's when we moved and she knew every address. So 1958, they should at least be able to go

back that far if we were able to.

MR. TOWNSEND (by telephone): Now, Tarawa Terrace was being operated by Spangler Realty and we were paying rent and it wasn't quarters when I lived there. That's why I didn't ask for it, but I have a copy of the index card from '65 onward on the quarters I lived in.

DR. BOVE: Yeah, Marie was using the database I was talking about. It's partially computerized, and we just want to computerize the rest of it.

MS. DYER: Okay. So it went back to '58?

DR. BOVE: Yeah.

MR. BYRON: Real quick; Jeff Byron for the CAP. Back to the cohort feasibility studies, according to a recent LA Times article, there are 1400 sites that the DOD is responsible that has TCE poisoning. When you go to do your cohort study between the individuals that lived at Camp Lejeune, say, and individuals that lived at Camp Pendleton, how are you going to insure that TCE wasn't in their water? So that there can be an honest comparison, not that it wouldn't be dishonest. But how can you assure that the data is not going to be skewed to show that there isn't a higher incident rate? That concerns me deeply.

DR. BOVE: Right. There are several different kinds of studies we can do, okay. One, the quick and dirty thing

we talked about, if you want to call it that, was using the CHAMPS data and then comparing Camp Lejeune Marines to other Marines, and that would be a problem. But we were thinking of doing that because we thought maybe it could be done rather quickly and give us a sense of some health endpoints that are not easily ascertained; a lot of the endpoints that have put on the Stand website that people have besides cancers.

But what we would -- you know, our main effort would be to compare those exposed at the base versus those unexposed at the base based on Morris' water model. So that deals with that issue. Well, it deals with that issue except that after people leave Camp Lejeune, do they go to other Marine bases? Of course, do they do other jobs when they resign or leave the military and get occupational exposures? There's all kinds of issues that make these studies difficult.

MR. ENSMINGER: But we have one common denominator here.

DR. BOVE: Right. I'm just saying.

MR. BYRON: Do we have to compare them to Marines? Do we have to compare ourselves to other Marines? Why can't we compare ourselves to just a human population outside of the Marine Corps area?

DR. BOVE: We can.

MR. BYRON: And hopefully they haven't been exposed.

DR. BOVE: Right. The National Death Index we can compare the Marines from the general population.

MR. BYRON: Okay. Thank you.

DR. BOVE: But we'd like to be able to compare exposed Marines at Camp Lejeune with unexposed Marines at Camp Lejeune.

MS. RUCKART: Okay. Just a few more things that I want to update you on before we move on to Dr. Fisher. Since we last met in February I am very happy to report that we confirmed one more neural tube defect. So that brings us to 17 neural tube defects. The oral clefts is holding at 24. The childhood hematopoietic cancers, still 16, but we're attempting to confirm one pending leukemia by having a senior researcher at the Winship Cancer Institute at Emory go back and hand search records and do an extensive search. So that brings us to 56 confirmed cases -- 57.

And just some other items I want to discuss with everybody. There are several steps that we need to undertake before we can actually begin a study. And I just wanted to let everybody know about our process, just so we'll know what we're dealing with here. So the steps required before ATSDR can start a new study include peer review, institutional review board approval, that's IRB approval, and Office of Management and Budget approval,

OMB approval.

Peer review takes approximately three months. Peer review is the process by which scientific or other research protocols, such as detailed study plans, are validated. And these are validated by independent experts outside the government. And this is to ensure the highest quality of science for all ATSDR studies.

All study protocols performed or funded by ATSDR must be peer reviewed. And typically there are three to seven peer reviewers and they come from the scientific fields relevant to the study subject. The peer reviewers must have no conflict of interest, and they address a standard list of questions. Then the reviewers' unedited comments are sent to the principal investigator or the study lead for a response. And the study lead responds to the peer reviewers' comments in writing and prepares a revised protocol, if necessary.

And the peer reviewers receive the study lead's response and the revised document package. The protocol and other supporting documents such as questionnaires, letters, brochures, et cetera, must be approved by the NCEH/ATSDR Office of Science. And once the study has been through peer review, then OMB clearance can be sought. And that takes approximately six to nine months. So prior to beginning data collection, we must obtain

approval from OMB.

You look confused.

MS. DYER: Okay. I just want to ask a question. This scientific panel that met a year ago -- that we were all up here, Ozonoff and all of them -- you're not considering them the panel that said that we needed to have future studies?

MS. RUCKART: Terry, it's a very detailed process. We have to prepare a protocol, which is kind of like a detailed outline of what we want to do. And you have to have your study questionnaires so the interview that you want to conduct. You have to have any letters you want to send to recruit people, any brochures. I mean, it's a very detailed process. And then it goes through three to seven peer reviewers that are selected by the Agency's Office of Science who have knowledge in those areas. So it's not just a general idea, it's more fully fleshed out. It has to be very specific.

MS. DYER: Okay.

MS. RUCKART: Okay. So then we need the OMB approval. OMB approval is needed if data will be collected for more than nine people. And the reason why OMB reviews the packages is to ensure that activities minimize burden, have practical utility, reduce duplication, and meet a specific agency need.

But before a package can be submitted for OMB clearance, a notice describing the proposed study is published in the Federal Register and 60 days are allowed for receiving public comment. So we just put something in the Federal Register that says we're thinking of doing a study on this topic and then we invite comments on it. It just briefly describes what we plan to do.

So after that is done, we address any of the comments, and then a second notice is published in the Federal Register once the study protocol and data collection instrument and other related materials and the supporting statement are submitted for OMB review. And 30 days are allotted for receiving public comments from the second notice.

And then at that point we submit the package to OMB and they have 60 days to review it. OMB may submit questions and the PI, the study lead, needs to respond either in writing or via a conference call with OMB staff. And at the conclusion of the 60-day OMB review period, OMB can either approve the study, disapprove it, or ask the Agency to withdraw the request. If they do approve it, the clearance is granted for three years.

And then after the OMB approval, we need to get the IRB approval. So that is conducted by the CDC/ATSDR Institutional Review Board. They review protocols with

respect to protecting human subjects. The things they're looking for is if there's a balance between the potential risks and benefits. If the selection of subjects is appropriate and fair, if there are provisions for protecting confidentiality and safety of the participants, and if there is appropriate and informed consent.

If the IRB has any questions or concerns, the study lead needs to address those in a written response. And the study can only begin after the IRB approval. IRB approval is valid for one year and we do yearly renewals, but that's initiated before the first year is going to expire so that we can have continuity for the project.

MR. STALLARD: And how long does the IRB normally take?

MS. RUCKART: That's approximately three months.

MR. STALLARD: I might ask a question here. So this is the standard protocol for a new study to be conducted, correct?

MS. RUCKART: Yes.

MR. STALLARD: Okay. So we're looking at a year, roughly, once it's all put into place to begin that study?

MS. RUCKART: Right. But I will say that's a year after the protocol and all supporting materials are developed. So we need to have some time to develop those. That's

probably a few months to flesh out the protocol, flesh out the study plan, write the questionnaire. So we're talking about a year, a little more. That's correct, yes.

MR. STALLARD: Okay. One question that begs to be asked: Is there an expedited process in any of these that we know of? Like OMB, for instance; is there any type of expedited process?

MS. RUCKART: No. And for --

DR. BOVE: Just the opposite. It could go longer because they could string you out with informal review processes before they start the formal process. That happened, actually, with the current study. They had an informal question period, which we had to respond to. Then there was a formal question period we had to respond to. So OMB is a problem that we have to deal with because we have to by law. The peer review process is also by law. So those things are set in stone. And the IRB is set in stone, too. So there is no way up. That's why it takes a long time to do these studies because of these processes.

MS. RUCKART: With the IRB there is an expedited -- you can ask for an expedited review and that is the three months. I'm just going under the assumption that we will have an expedited IRB review and that's three months.

MS. McCALL: Okay. I just need to understand whether all three of these reviews can go on simultaneously or does one have to wait for the other?

MS. RUCKART: Well, before anything can be sent to OMB and IRB it does need to go through peer review. IRB and OMB can happen simultaneously, but then you can run into some problems if one group is asking you to address comments that affect what the other group is reviewing. So it gets kind of tricky at that point to try to respond to both sets of comments and then make sure they're each reviewing the same revised package. It's sort of dicey. So you can do it, but that may end up lengthening your process if you have to pull it back and then submit a revised one.

MS. DYER: All right. Perri, I've got a question, and I think this is the proper time. Frank, do you feel like the ATSDR has enough information with the study that you're conducting on the in utero to warrant future studies?

DR. BOVE: I wouldn't base doing future studies on the current study. I would base it on the fact that there were exposures and that the previous scientific panel said that a mortality study was warranted. So I would run on those recommendations and the fact that there were high exposures.

MS. McCALL: Can we direct that question to Dr. Clapp?
DR. CLAPP: I agree. I think that I agree with what the previous panel suggested a year ago, and I think the mortality study ought to go right ahead as soon as the list of who's exposed is available.
MS. DYER: We're not asking about the mortality because we know that that's going to go.
DR. CLAPP: Yeah.
MS. DYER: We're talking about was there enough evidence in the studies in the in utero to warrant future studies of children and adults that were out there.
DR. CLAPP: I don't enough information that's --
MS. DYER: Okay. Well, that's the other thing we need to talk about then is that both doctors are not getting information, evidently, that they need from the ATSDR because --
DR. CLAPP: You asked a very specific question about childhood illnesses and I'm sure I can get that information, but --
MS. DYER: Is the ATSDR sharing everything that they're doing with you all?
DR. CLAPP: Yes, absolutely.
MS. DYER: Dr. Fisher?
DR. FISHER: I guess I feel like I'm not real informed, but I'm not an epidemiologist.

DR. BOVE: Okay. I'm trying to figure out what we're talking about because I'm very confused now.

MS. McCALL: The question is: Do the doctors feel they have enough information with the in utero study to make a children's and adult's study feasible? And you just said something about there was a high incidence in the in utero study.

DR. BOVE: I didn't say that.

MS. McCALL: No.

DR. BOVE: I didn't say anything of the sort.

MS. McCALL: Okay.

DR. BOVE: What I said was -- and I thought you were talking about the mortality study as well. So now I understand it's a different question. The mortality study I think is warranted based on the exposure. Additional studies, like a cancer study, was also recommended by the scientific panel. Again, it had nothing to do with the current study. It had to do with exposures. I think with the exposures at Camp Lejeune you can justify doing a mortality study and an adult cancer study.

Beyond that, we haven't talked about -- and the panel, if you remember, was kind of vague on all kinds of possible approaches. But they thought that a mortality study definitely should be looked at for feasibility and

done if it was possible and the cancer study. And that was based on exposure. It was not based on -- and previous studies that had been done at Woburn and so on, okay. But the information -- all of you, not just the experts, but all of you and the DOD have the information about the current study as we can give it to you. In fact, Morris this afternoon will update you on the water modeling. So there's no information we have about the current study that you don't know and DOD doesn't know. You all know the same. We haven't done the analysis yet of the current study because we don't have the water data yet in hand to make the connection between the cases and controls and their exposure, okay. So that needs to wait until we do that analysis.

MR. BYRON: So what we can say is the incident cancer rate study and the mortality study would lead to children that were exposed and adults who were exposed studies? Yes, no?

DR. BOVE: We have to discuss that.

MR. BYRON: The possibility would be there?

DR. BOVE: Right. The problem I see is what kind of data are available to do a credible study? That's what I'm grappling with, and I want you to grapple with me on it, okay. That's where we're at. And we have part of the agenda is to talk about these things. We talk about the

scientific credible studies, the prevalence study, notification, that's all on the agenda. But we can start that now, if you don't shoot me. I'll let the chair decide on what we need to do.

MR. STALLARD: Well, there are some specific questions on here. We want to allow enough time for Dr. Fisher to give his presentation. Will that lend itself as well to the discussion of toxicology?

DR. FISHER: Maybe.

DR. RENNIX: Can I ask a question, Frank? Chris Rennix. For the mortality study, since you're not going to be actually contacting individuals, do you need OMB approval for that? You're not doing a survey? As I recall, since you're not actually contacting individuals, you do not need OMB approval. You can go straight from peer review to IRB.

DR. BOVE: I'm trying to think because we just had a discussion about this. We're collecting information on individuals. I have to get a reading from my Agency.

DR. RENNIX: Because I believe OMB, the restriction is if you have to contact and request information from an individual -- more than nine individuals -- you have to have approval. Since you're not contacting them, you're doing a registry review and a database review, that OMB approval is not required. Most universities don't have

to go that route.

DR. BOVE: Right.

DR. RENNIX: I know. I understand.

DR. BOVE: We're different. I think I agree with you.

DR. RENNIX: For mortality study you're not contacting individuals.

MS. RUCKART: Right. Yeah, I think we may not need to do OMB if you're not contacting because the key word is if they're contacting more than nine people.

DR. RENNIX: Absolutely.

MS. RUCKART: But I was just laying out the steps when we do any study. But, right, that's possible that we may not need the OMB. So we would just still need IRB --

DR. RENNIX: And peer review.

MS. RUCKART: -- and peer review.

DR. BOVE: What we normally do is we send the information to our -- we have an OMB group at the Agency and they tell us. But I think you're right, it would probably get through without having to do it.

MR. STALLARD: Okay. So we've identified a potential expedited approach to at least the mortality study, pending verification.

DR. BOVE: The problem with the mortality study still to me is -- and we can discuss this, but this is the problem I see is being able to link the family housing

information, which again we have name, rank, time period they were there, and the address with DMDC personnel records, which don't have the full name until sometime in the mid-70s.

MR. ENSMINGER: Yeah, but when you're doing a mortality study, now, you're going to be looking at active-duty people, too. I mean, housing records don't have a thing to do with them.

DR. BOVE: No. But I would want to be able to identify where people were at at the base. If they lived in family housing, I want to know that and where. If they lived in the barracks -- they didn't live in family housing, then I think we'll probably assume they lived in the barracks unless someone can tell me that that's not a good assumption. So we'll have an idea of where they were.

If we don't have that, then we're stuck with the situation of we don't know who's exposed and who isn't. And given that there's a sizable population at Camp Lejeune that was not exposed, it's important to know that because if you mix the two groups together, it's harder to find a positive finding. So we want to be able to do that, if at all possible.

MR. STALLARD: Dr. Fisher, you're preparing for your presentation I see.

TOXICOLOGY OF TCE AND PCE

JEFF FISHER

DR. FISHER: I'm trying. I don't know how to operate this... You have handouts and I don't. I may have to look at one of my handouts. Do you have this? It's a copy of the slides.

MR. STALLARD: Here's more.

DR. FISHER: If I can talk from these. Okay. Someone's coming to save the day.

MR. STALLARD: Frank, in answer to your question should we talk about the issues of data integrity and whatnot that we were getting into. No, we're going wait until we get to a point when we start talking specifically about those topics.

DR. FISHER: They're going to work on it. I'll get started. When I was asked to talk about trichloroethylene and perchloroethylene toxicology, you know there's a tremendous amount of literature and it's just a very broad topic. Then I asked myself the question: What information can I provide that will help the CAP? Then it became very difficult what I talk about, so I have a few slides of information that I think are relevant to this.

You should know from a regulatory perspective that both trichloroethylene --

MS. RUCKART: We have some AV help coming.

DR. FISHER: So the regulations, you know, the environmental standards like drinking water -- I mean, there's standards in place, but both trichloroethylene and perchloroethylene, I say are in flux from a regulatory standpoint. And that really stems from the late '80s when a science advisory panel for the U.S. EPA reviewed the epi, the toxicology and they looked at classification of these compounds -- cancer classification, and they came up with a classification that didn't exist for the U.S. EPA.

So U.S. EPA withdrew their risk assessment information off of the database that's on the Internet called IRIS, I-R-I-S, Integrated Risk Information System. So if you look there you'll probably be confused. Lots of states use old numbers -- cancer risk numbers. Also, just the classification of cancer. EPA's had a draft document for ten years and they just came out with a new guideline for cancer classification.

Most of all this information is gathered in animal studies. Rarely is it derived from humans. So when you look at five parts per billion as a drinking water level, you know, they're really -- they're not derived from humans. They're thought to be protective of humans, but those numbers -- if you look at the math and risk

assessment approaches, it's liver tumors in a certain kind of mouse from studies done in the '70s and early '80s.

On the second page, I've taken a little bit of information. There is a lot known on the toxicology of these solvents from use as a degreaser, occupational exposures. There's a long history of use and documented effects. A lot of acute effects, CNS effects, dizziness, tingling of the arms, even kidney toxicity, liver toxicity, high exposures. And I've listed symptoms for perchloroethylene or tetrachloroethylene that are documented. You know, there are cases where adults and children have actually swallowed these solvents; some have died. So there are these case studies of individuals. So there's lots of information. They're well-studied compounds.

But if you look at the epi studies that regulators use, they first have been looking at occupational exposure data sets. And even those data sets have some of these same confounding problems when you go to human exposures of people that are exposed a year, 30 years, in deriving health outcomes. But there have been a lot of associated health outcomes, and I've listed some of the organ systems. And drinking water studies I actually -- for epi, Dr. Bove and I have Dr. Gibbs, actually he's a

physician that's working in Chile with another study and I put his name. I meant to say Dr. Clapp. They know those studies. They're familiar with the data and the analyses of drinking water studies, epidemiologic studies of these solvents and other solvents.

Why is there all of this confusion? Why is this so difficult? And the next slide can give you some inkling about trichloroethylene. It's the second page, bottom slide with lots of columns. Look at this. I don't usually show pleathered (ph) slides like this, but since the mid-70s some federal agency in the U.S., Europe has done a risk assessment for trichloroethylene and come up with totally different results. And besides that, there are peer-reviewed published risk assessments on individual cancers by scientists, epidemiologists, toxicologists, risk assessors. So these compounds have been looked at a lot.

And on this table you'll see up at the top the classification symbols; three minus signs; a plus, two minus signs. And the first symbol means that it's an animal carcinogen, known animal carcinogen for trichloroethylene. The second symbol means it's a positive epidemiologic study; human study for trichloroethylene. And the third symbol means that it's a probable human carcinogen. So the strongest evidence

is on the far right with three plus symbols. But yet you can go to the left and see federal agencies having three negative symbols. How can that be?

MR. ENSMINGER: Well, who is ACGIH, Dr. Fisher? Who is that?

DR. RENNIX: That's the American Conference of Governmental Industrial Hygienists.

MR. ENSMINGER: Oh, gee.

DR. RENNIX: It's not a federal organization. It's a professional organization that sets exposure limits for occupational only.

MR. ENSMINGER: Industry?

DR. RENNIX: No, they're not industry people. They're dot org.

MR. ENSMINGER: Oh, I know that. Are they part of the -- How are they tied into the -- what is it-- the industry protection agency?

DR. RENNIX: They get sued all the time by industry because their standards are set and the industries don't agree. They're a dot org nonprofit organization of professionals that get together, like AMA, American Medical Association. They're a nonprofit organization.

MR. ENSMINGER: What's the Halogenated Solvents Industry Alliance?

DR. RENNIX: They're not part of that.

MR. ENSMINGER: They're not part of that?

DR. RENNIX: They don't get any funding from that at all. I'm a member of the ACGIH, that's how I know.

MR. ENSMINGER: Is that right?

DR. RENNIX: Yeah. Then there's another group called the American Industrial Hygiene Association. It's another completely independent from any influence from industry or from government. They are independent.

MR. TENCATE: And they look at workplace safety?

DR. RENNIX: It's workplace, not environmental issues, only workplace.

DR. FISHER: So this type information can add to the confusion of what's going on. That's the only point that I wanted to make. And that's what this person, this author, was trying to do was just look at the history of this chemical. And it still goes on today with these compounds.

Okay. So a little bit of toxicology that's relevant, I think, to the drinking water issues here that we do now know some of the metabolites of these solvents are the bad actors. At least in animal models, these acids that are formed, dichloroacetic acid, trichloroacetic acid. It's interesting because these acids are also found in drinking water that's chlorinated in the presence of humic acids surface waters. So some

of these acids that are the bad actors as metabolites of both solvents can also be found in drinking water. And in the environment, these solvents starting with tetrachloro, perchloroethylene can be broken down to trichloroethylene, dichloroethylene, 1 2 cis and trans, and then a human carcinogen called vinyl chloride. So there are other compounds that might be of interest.

MR. ENSMINGER: Well, you know, that's one of the questions that I asked the panel that was put together by the National Academy of Sciences when I went up there to address them was we have PCE, which breaks down to TCE, which breaks down to DCE, to MCE, and eventually all of them become vinyl chloride, which is a known human carcinogen.

DR. FISHER: Right.

MR. ENSMINGER: So what's the debate? What's the debate about?

DR. CLAPP: Money.

DR. FISHER: Well, you're looking for these other compounds, as well as just the starting compounds, the solvents that were used; perc and tri, TCE as it's called. Maybe some of these other compounds, are they being tracked also? I'm not sure about that.

MR. ENSMINGER: The information that was used to create the new standard that is now under question by DOD and

NASA and the Department of Energy, when it came out they stated that they had underestimated the toxicity of these chemicals, or TCE, by as much as 60 times. What data did they use to come up with that new risk assessment?

DR. FISHER: The National Academy?

MR. ENSMINGER: No, the EPA.

DR. FISHER: Oh, the 2001 document?

MR. ENSMINGER: Yes. The scientists that came up with the data for that risk assessment for the EPA, which is now being -- was now under fire, was kicked -- punted over to the National Academy of Sciences.

DR. FISHER: Right.

MR. ENSMINGER: What data did they use to come up with that statement that they could possibly have underestimated the toxicity of these chemicals by as much as 60 times?

DR. FISHER: Data from more recent epidemiologic studies with trichloroethylene by drinking water, and a few reproductive studies with animals. There's one page in that document that lays out all the studies and the sensitivity that would address the issue. Off the top of my head I know of one study in Europe, but I don't remember all of the studies.

DR. BOVE: They use the Kidney Cancer Study in Europe. They use the New Jersey Drinking Water Study, which I

worked on. They used -- after that, I'm trying to remember. They didn't use Woburn. They used another occupational study from Wartenberg's meta-analysis, but I can't remember.

MR. ENSMINGER: And now I understand --

DR. BOVE: But you're right, there's one page, though, and we can get that, we can reproduce that.

MR. ENSMINGER: I understand that this thing that the National Academy panel is now hung up on the metabolism of this stuff.

DR. FISHER: I have no clue.

MR. ENSMINGER: That's what I hear through the grapevine.

DR. RENNIX: They're due to report out this summer on that methodology. And they're going to either endorse EPA's methodology or they're going to recommend a change to their process.

MS. McCALL: With all of these studies that we're talking about, are we able to use any of the data from any of these studies to expedite our study?

MS. DYER: Is any of it conclusive?

DR. FISHER: You're going to have to ask Dick. You're talking human studies, more than likely.

DR. CLAPP: I don't think any of this new data adds further weight to the need to do a study for Camp Lejeune. That's already there. If anything, it just

confirms that. It doesn't really say well, it's not more urgent.

MS. McCALL: Well, I only ask that question because at the last meeting we were grappling with the question of is it feasible to do any more studies. So I guess what I'm asking is what is the next step after we identify useful studies.

DR. CLAPP: Well, this is all about cancer, mostly. And so there's a mortality study which will include cancer as a cause of death, and then the notion of several states, California, Ohio, Pennsylvania, North Carolina, Texas cancer incidence studies. As soon as the cohort is assembled, the names of people and whether they were exposed or not is assembled, that should go forward.

MS. McCALL: What does the ATSDR need in order to go forward?

DR. BOVE: Well, that's the subject of this afternoon.

MR. STALLARD: If we could, let's finish with Dr. Fisher's presentation and we're going to get to the meat of the matter, okay?

MS. McCALL: Okay.

DR. FISHER: Okay. Last slide. So for the CAP group, the animal studies probably don't help you. I mean, it's background information, it's useful, but it doesn't address your needs. And the modeling, I think, is

helpful because that's the exposure connection and the magnitude of the exposure to relate to health outcomes. Dose response, if you will.

But I ask the question now, what if you assume worst-case scenario for whatever the major concentrations were, 1600 parts per billion or around two parts per million in water, what do we know about human exposures at that level right now today without doing the future work? What can we say about that? I ask that of my colleague. I don't know the answer. It's an epidemiologic question.

The ongoing studies, as I mentioned I'm trying to get a grasp on what's going on within the Agency, the level of effort, number of people working on it, and what's planned in the future. So I'm still behind the eight ball on figuring that out. That's it. Thanks.

MR. STALLARD: Thank you.

MS. DYER: Does he want those questions answered now?

MR. STALLARD: Which question?

MS. DYER: Didn't he ask how many people were working on it?

MR. STALLARD: Speak into the microphone.

MS. DYER: I'm sorry. Dr. Fisher, were you wanting to have those questions answered now? How many people were working on it? I mean, everything that you just asked,

do you want that answered now?

DR. FISHER: Well, if there's a simple answer.

MS. DYER: Okay. Frank?

DR. FISHER: How many people in the Agency like we had briefing of what was going on -- does that represent one person, five people working full-time, or ...

MS. RUCKART: Well, one thing I want to say before we can go forward with some of this work, we need to know whether our proposal is going to be approved by the DOD. That is a big question before we can move forward.

MS. DYER: Can we answer that now?

MR. TENCATE: I think approval is the wrong word.

MS. DYER: Funding?

MR. TENCATE: We have your initial proposal and I think Dr. Rennix has asked for more clarification, more detail. The MOU that's in place envisions comments back and forth, back to you, and then you would go into your pipeline with OMB, the other agencies, peer review, et cetera.

MS. DYER: If it had to be sent back for more information; is that what you're saying?

DR. RENNIX: Right. What I've asked ATSDR to do, the proposal we got was vague in the detail about how they wanted to spend the money. Specifically, what were their contractor costs going to be? How many hours were they

expecting to take to do this database before we would be able to fund it? So I've gone back and asked them to put it in an NIH sort of format like everybody else puts in for grants. That can then -- once we look at that and say yes, it seems that it's in line with what we've seen in other studies, then they would negotiate with Mike White and the DOD, because he's the person that transfers money from DOD to ATSDR for funding.

MS. DYER: How long ago did you ask for this?

DR. RENNIX: I asked for clarification about the beginning of the week last week, something like that.

MS. DYER: Okay. Can we get a timeframe on when the ATSDR can get that back to them?

MR. STALLARD: We certainly can talk about that when we resume from our break in 15 minutes, and we will begin to have an active open dialogue. Thank you. Be back in 15 minutes. Make sure you get your lunch paid for and identified.

(Whereupon, a break was taken.)

DISCUSS RECOMMENDATIONS FROM FEBRUARY 2006 CAP MEETING

MR. STALLARD: All right. Welcome back. May I have your attention, please? We're broadcasting live. Let's focus back here. Thank you. I have been asked to remind you that make copies of your receipts and submit the originals and keep your copies. It's back to that

bureaucracy thing we've been talking about this morning. Okay.

I need clarification, just so that we all understand what the dialogue was just before we went to break where Dr. Rennix was responding that there's a proposal from ATSDR and they've gone back and forth on that. And that proposal is specifically about what, so that everybody knows?

DR. RENNIX: The proposal is to obtain money to start the framework for whatever future studies we're going to do. So they've requested money for contractor to input all of these housing records into a database and for money for travel to go to DMDC and to Naval Health Research Center to look at these databases to see what more information that can get from them.

MS. RUCKART: One clarification, I'm sorry. We're not asking for money for a contractor.

DR. RENNIX: Not a contractor. I'm sorry. Yes, to pay for a person to enter the information.

MS. DYER: Is that information only the mortality, or is that information for the children and adults?

MR. STALLARD: Please, hold on. Hello, Tom?

MR. TOWNSEND (by telephone): Yes.

MR. STALLARD: Are we having a family feud there?

MR. TOWNSEND (by telephone): (Inaudible)

MR. STALLARD: Okay. Well, we're getting some feedback from you then that's a little distracting, just so you know.

MR. TOWNSEND (by telephone): I'm sorry.

MR. STALLARD: That's okay. All right. And folks here, please speak into the microphone.

DR. RENNIX: So I got a proposal sent to me by the Marine Corps to take a review of.

MS. RUCKART: Tom, could you mute your phone if you're not speaking, please? Is that possible?

MR. TOWNSEND (by telephone): All right.

MS. RUCKART: Tom, are you able to mute your phone if you're not speaking?

MR. TOWNSEND (by telephone): Am I speaking?

MS. RUCKART: No. If you're not speaking are you able to put your phone on mute?

MR. TOWNSEND (by telephone): I'll try.

MS. RUCKART: Okay. Thanks.

MR. TOWNSEND (by telephone): Sorry.

DR. RENNIX: So I received a proposal from the Marine Corps to review for them, and I went back to Frank and to Perri and basically said we needed more detail. They provided more detail, except one line about funding. So I responded we needed some more detail on that. I talked to them during the break, they're going to provide that,

specifically how much they wanted for the data input and how much they needed for travel. We'll look at that, and then it becomes a budget issue with ATSDR and DOD because it's either going to be money taken from current projects or it's going to have to be delayed until our next funding cycle.

MS. RUCKART: Well, one thing I wanted to tell you. Our DOD liaison told me that she submitted the budget request in October, so you should have that.

DR. RENNIX: I know. October is past our funding cycle. We're ready now to develop our FY '07 funding cycle.

MS. RUCKART: Okay. Then that money will be to you by May 31st. I believe that's your deadline.

DR. RENNIX: For FY '07.

MS. RUCKART: FY '07.

DR. RENNIX: Right.

MS. RUCKART: But we also put in a request for this in FY '06. It's going to span two fiscal years.

MR. STALLARD: Okay. So the issue is -- we all understand what the -- and those were the states that we talked about prior, correct? The major Marines Corps -- thank you -- the major Marine Corps locations, correct?

MS. RUCKART: That's something that would be after that point. We're just talking right now about the feasibility assessment to see if we can identify the

people who we can then further study. We haven't even gotten into requests for that budget-wise yet. That will come later.

MR. STALLARD: Okay.

MS. DYER: So I guess I want to ask this: So this means that every little tiny step we take is going to have to be budgeted separately? So every little thing that we go through is going to have to go through this?

MS. RUCKART: Well, Terry, we budget on a fiscal year and we plan ahead. So right now we're talking about fiscal year '07. That's going to start October 1, 2006. And we've already sat down about a month ago here at ATSDR to think about our financial needs for '07. And then we have until May 31st to submit that to DOD. So we think about it for a full year. So we've thought about our budgetary needs from October 1, 2006 to September 30th, 2007 and we will be submitting to them what we need. We do it in broad chunks. We do it in a yearly basis.

MS. DYER: So what your funding is now for is the mortality. It's not children and adult studies. So is that something that we need to try to get going now?

MS. RUCKART: Let me clarify. We need to do this feasibility assessment before we can undertake any future studies because we need to know who the people are that we're trying to study. So for FY '06, fiscal year '06,

which is what we're in now, started October 1st, 2005, it's going to go through September 30th, 2006. We've asked for some money to begin the feasibility assessment, that is to try to see what data the DMDC and CHAMPS has available to us, as well as computerize the housing records. And we've also asked for some money in fiscal year '07 because it's going to start now and continue on. Fiscal year '07 is October 1st, 2006 to September 30th, 2007.

Now, we're going to be doing that and we're not going to need that whole time till the end of 2007. If we determine that there's enough data, we can identify the people through those databases, DMDC and CHAMPS, we could start pursuing a mortality study. We don't necessarily need money from DOD to start that here because the things that we discussed that we need to do, develop a protocol, go through peer review, doesn't really require direct funding from DOD.

So when we actually need funds to start a study, the interviewing of people, mailing out letters to people, things like that, that would actually be fiscal year '08, which would start October 1st, 2007 and we would be submitting money to them -- that's a little bit ahead of ourselves right now.

MS. DYER: So everything that you do, can you get that on

a timeline for us so that we can stick to it?

MS. RUCKART: We can't start a timeline right now because we need to see what the feasibility assessment shows us. We need to see if the data are available. Once we see what data are available, when the feasibility assessment is done, we can start talking about broad timelines, but that's a little premature. We need to see the results of the data assessment to see what DMDC and CHAMPS has.

MR. ENSMINGER: Well, let me ask you a question. Will you share with us your budget requests for your FY 2007 planned work for Camp Lejeune? I mean, show us what you're asking for.

MR. BYRON: And what you hope -- pardon me. And what you hope to accomplish with it when you get it.

MS. RUCKART: I would like to just first check and see if we can share that with you before we share it with DOD. I'm not sure of the answer of that.

MR. ENSMINGER: We may have some suggestions.

DR. BOVE: Well, that's what this meeting is all about.

MS. RUCKART: But, see the budget, I just want to clarify --

MR. ENSMINGER: But I want to see what kind of money you're asking for.

MS. RUCKART: We're talking about broad activities and broad numbers. And what we just talked about is what

we're asking for money for in '07, which is to continue the feasibility assessment; to travel, to meet with the staff that houses this data, to computerize the housing records, and that's all that we need at this point because we need to wait for the results of those activities to talk about future studies and that's down the line. So I think now we're pretty set for FY '07.

MR. ENSMINGER: But didn't you tell me you asked for that money in 2006?

MS. RUCKART: We asked for money for fiscal year '06 and '07 because it's going to span two fiscal years. We're wanting to start it now, but we may not finish by September 30th. It may continue on to the first quarter of '07. I know it's confusing because we're talking about fiscal and calendar year --

DR. BOVE: Let me try to clear this all up, okay, so we know what we're talking about. The first thing we're talking about is a feasibility assessment. We're not talking about a study. Let's call it what it is. It's a report back to DOD and to CAP, which says this is what is at DMDC. This is what's at CHAMPS. This is what's at any other database that we can find that's worth using or that can be used for any future study. This is what's there. This is the limitations of that data, right. This is what we can link and what we can't link.

For example, I'd mentioned before, we'd like to do a mortality study. We want to link the personnel records we have with the housing records we have. There's a problem in the early years because names isn't on -- full name, at least, isn't on the personnel records. We're going to try to figure out what to do about that. Do we just forget about people earlier and start where we have full name, or can we do something to get that full name, okay. So these are the questions we're going to be asking, okay.

For that effort, we're not talking about a lot of money here. We're talking to someone to computerize our housing records, to finish that job, right. As we said, Marie Socha used it. We used it in both studies; very important data. It's there. It's on index cards. Some of it's illegible. We're going to have to figure ways to make it legible, if necessary, right. Tom Townsend got his housing records from some place. We'll have to find out where he got them. That's what the feasibility assessment is all about, okay.

Once we've done that, we have to do that to make a case for the mortality study. Even though the science panel said to do a mortality study, we have to see just what that will involve. Who can we include in that mortality study, given the data at hand, the personnel,

and linking it with housing records? Because we want to compare -- we'd like to compare exposed with unexposed. We don't want to compare Marines to the general population because the general population is different from the Marines, okay. Actually, you run into some of the same situation often times you do in occupational studies. It's call the healthy-worker effect. The Marines are healthier than the general population, so that it makes it harder to find an effect, okay. So you don't want to do that. You want to have a comparison group that is comparable to Marines.

Now, another issue is as brought up by Jeff, some of the Marines are exposed to contaminants in other bases, all right. So if we'd like to maybe confine it to Camp Lejeune. These are issues that we're going to be thinking about here and in the feasibility report, okay.

So that's what that's all about. It doesn't require a lot of money. It requires some time, some discussion. I'm going to be working closely with Chris, Dick, and whoever to try to flesh these issues out, okay. So that's that timeline and I hope to have it done --

MS. RUCKART: Well, the timeline that we discussed is having a report to the Marines on our feasibility assessment in the second quarter of fiscal year '07. That would be by the end of March 2007. And then at that

point we can talk about timelines for conducting additional studies. Any time before that would be too premature.

DR. BOVE: So that's when the feasibility report is done. You don't need money to come up with a protocol for the mortality study. We can prepare the protocol, send it to our IRB. We may not need OMB approval. I think that's probably the case, we don't need it, but we'll have to check just to be sure and we can move on that. So that gives you some sense of the time.

The cancer study is going to be more difficult. We're going to need more thinking about just how to do that study, because there's various ways to do it. You can look at a couple states, which states make sense. We've listed some, but we need to revisit that. How available is the data in those states? How far back can those states go? So on and so forth. So these are issues -- the cancer study is more difficult. And then any other study is even more difficult, okay. So that's how it looks to me right now.

MR. TOWNSEND (by telephone): Hey, Frank?

DR. BOVE: Yeah.

MR. TOWNSEND (by telephone): Tom Townsend, here.

DR. BOVE: I know.

MS. RUCKART: Go ahead, Tom.

DR. BOVE: Go, Tom.

MR. TOWNSEND (by telephone): I thought various questions about the budgeting process was interesting because I've asked Linnet Griffiths a number of times for the budget submission to DOD and I have never received anything. And I think last year a number of the recommendations from the CAP did not go forward with the budget submittal. So I think that has to be worked on.

MR. ENSMINGER: Tom, we didn't have the CAP last year. You're talking about the expert panel.

MR. TOWNSEND (by telephone): Yeah, okay, the expert panel; that's correct. But that didn't go forward and then they have submitted -- had submitted some supplemental requests for money. But I agree. I'd like to know what kind of money is being asked for to support programs that are being recommended to ATSDR.

MR. ENSMINGER: I've just got a general comment on this. We have DOD controlling the purse strings and everything you do has to get the approval of DOD. DOD was the people -- or some of the people responsible for this catastrophe. Something ain't adding up here. I mean, we've got the fox guarding the henhouse here. I mean, this is the largest water contamination case in the history of the United States. I mean, Woburn, Massachusetts had 267 parts per million -- billion of TCE

at the well. At Camp Lejeune, we had 1,400 parts per billion at the tap. And the Marine Corps has misrepresented the contamination that took place at Camp Lejeune from day one.

Now, damn it, we need the money to find these people and to study them and find out what the hell happened with this ghoulish experiment.

MR. TENCATE: If I may?

MR. ENSMINGER: You may.

MR. TENCATE: The Marine Corps or DOD does not approve or disapprove anything that ATSDR does. There is a process that's set out, the Memorandum of Understanding or Memorandum Agreement, about how monies are disbursed. It's not an approval process.

MR. ENSMINGER: But, Colonel, how long has this thing been going on? How many years has this been dragging out? Camp Lejeune was declared a superfund site in 1989, and the foot dragging started then.

MR. BYRON: It started in 1980.

MR. TENCATE: There's no foot dragging. What I'm trying to tell is that there is a budgeting process for all the IR sites all over the country. And this site is no different. It goes through that same process.

MR. ENSMINGER: Yes, it is different. We had hundreds of thousands of people exposed to high levels of

contamination at this site. Compared to the other sites, you didn't. That's the difference. The difference is my child died from this site. How many other people died? I know very well that a law firm that I'm dealing with, some of them are sitting right here, right now, have had multiple calls with people from non-Hodgkin's lymphoma, adults.

MR. TENCATE: And I think that's what ATSDR is trying to do with their studies is try to find answers. We all want the answers.

MR. ENSMINGER: Do we?

MR. TENCATE: That's why we're here. That's why we're sitting at this table.

MR. ENSMINGER: But, all this stuff about going back to them and saying hey, you got to put -- dot this I or cross this T before we give you that money or forward it into the budget -- uh-uh. You know what they're doing.

MS. McCALL: With all due respect, Colonel, we understand the process that you have to go through and we're not holding you personally responsible. You know that. But what we're saying is on our side, we're dealing with the emotions and the health effects of this chemical poisoning, and that takes us to a different level. We're sitting here listening to budget constraints and proposals. That doesn't mean much to us right now. What

we're looking for is an expedited process to this already long and drawn out situation. We are looking to somebody from the Department of Defense or the ATSDR to let us know how much longer we need to wait for answers. I think we have a lot of answers already. We need to connect the dots. And we understand about all of the processes and all of the things that you must do to hand out the money. But you need to understand, we are dealing with this on an emotional level. And when Jerry gets upset or I start crying, that's where it's coming from.

MR. TENCATE: I understand that. And I think that's why we're all here at this CAP meeting is to talk about getting from point A to point B.

MS. DYER: But one of the reasons why we wanted someone on the CAP from the DOD was so that we could say to you, this is different, like Jerry was saying. This is not your normal thing. It's not. And if you need to go back to them and say look guys, we need to open our pocketbooks wide to them and get rid of some of this paperwork continues. Every time we want something we're going to have to come and beg for it and it has to be approved? That's got to stop. You know what we need, you know that we need the money, and you know that we can't get anything done unless we have the money. You

need to open up your pocketbook and hand it out.

MR. TENCATE: And what I'm trying to help you guys understand is that we can't just open our pocketbook. We have constraints as well, by law. Now, however, the DOD is not the sole source of funding here and there are other sources.

MS. DYER: Well, if you know that there are other sources, then you need to go to those sources and get that money for us because we don't know where to go. And I know this sounds crazy, but you can buy guns. You have no problem sending billions of dollars over to Iraq. These are people that have been wounded here in your own country. These are your people. And it happened on a military facility. You need to take care of them. Find the money.

MR. TENCATE: And that's a great way of looking at it is that Congress appropriates money to the military for specific purposes.

MS. DYER: Okay. So is it you that needs to go to Congress and ask for this?

MR. TENCATE: For guns, for example. And if we use it to -- if we spend that money on something other than what it is appropriated for, then we're in trouble.

MR. ENSMINGER: Has anybody from DOD asked for more funding for this purpose, for these studies for what

happened at Camp Lejeune?

MR. TENCATE: We get a budget of environmental response funds from Congress, and that's fixed.

MR. ENSMINGER: Defense appropriation.

MR. TENCATE: Exactly. And that's the source. That's the source of all monies.

MR. ENSMINGER: How many years has the Marine Corps known about this? How many budget cycles have they gone through and how much have they asked for this specific case?

MR. TENCATE: I think it started in the early '80s.

DR. RENNIX: I think you need to ask ATSDR to provide input on their budget submissions. I'm not sure if they can provide that to you. You can always ask that question. As far as expedited review, you have to ask for it. Ask. I mean, you guys have been empowered as a panel to advise. If you would like expedited review, then you ask for expedited review. You ask for special funding, ask for it.

The DOD has got many things that they're looking at and it's not just Camp Lejeune. It's sick kids in other bases. I mean, you're not the only place where we have children who have been poisoned or maybe have been exposed. We don't know.

MR. ENSMINGER: No. This is the biggest.

DR. RENNIX: It's the biggest. I'm not going to argue that fact. I don't know.

MS. BRIDGES: It's the oldest, but we have grandchildren.

DR. RENNIX: I don't know all of the sites that have pollution. I don't know -- you might have the biggest population of people, but there might have been other sites.

MS. BRIDGES: We're the oldest.

DR. RENNIX: Okay. I would prefer to deal from facts. So all the sites we have, all the populations, and all the diseases from all these sites, but as a panel, you were given expert guidance a year-and-a-half ago or a year-and-three-months ago from a group of scientists that gave you specific guidelines that you should pursue. So I would take that as your charter to move forward and if you're not getting what you want, then you need to put it in writing and request it. I would suggest that. Then you get a response back.

MR. BYRON: So what you're saying is is if we come up with the budget for this, DOD will back it or possibly back it?

DR. RENNIX: It has to be submitted by ATSDR.

MR. BYRON: It has to be submitted by ATSDR or Congress as a bill for legislation to go to the next defense appropriations act, there's a possibility you'll back

that?

DR. RENNIX: I'm not an expert in that area. I know how that works. I know how that works. But, if you would like expedited review or expedited funding what happens is our budget is already set for FY '06, which means that ATSDR would have to negotiate with the DOD and take other projects off the table, stop those projects, to move funding into this, because that money has already been appropriated. FY '07 is coming up; again, same thing. There's a pot of money that's given to us and we have to appropriate it. How important that is is how much pressure we get from -- you know, because you're competing with the Air Force and the Army for their dollars too, and they're thinking, you know, are we going to give money to the Marine Corps for this problem that they created or didn't create? You know, we have sites that have to clean up that we have affected populations.

MR. BYRON: Right. As members -- this is a possible recommendation -- bring your family members that have been affected. And let's let the Congress and everyone else viewing this see their illnesses. Maybe that will stir someone for action.

MS. BRIDGES: My seven-year-old grandson weighs 40 pounds and just learned to talk last year.

MR. STALLARD: Please, let me interject here for just a

moment. The issue -- and clarify for me -- is that this panel is looking to raise this issue to a level of resolution and identification. Identify the problem and find a solution for it and find the funding for it; is that fair? That's what we're trying to do here?

MS. McCALL: Yes.

MR. STALLARD: Okay. And there's a sense that there are impediments, bureaucratic impediments, along the way. So how can we collectively identify what those might be and seek solutions to alleviate those bureaucratic impediments? So what I'm hearing over here is that just last week the proposal was submitted to do the number one step of a feasibility assessment.

MS. RUCKART: Actually, the proposal was submitted several months ago. The initial proposal was submitted in October, November of 2005.

MR. STALLARD: Okay. So the issue is what do we need to do to better track and monitor timely response on both sides -- on all sides and transparency of information being shared? So that you know what's being submitted and when and there's a responsible person someplace who is actively engaged and interested in helping find solutions to the problems.

MR. ENSMINGER: What set me off on this whole thing was that this thing was submitted a couple of months ago.

They just got a reply back last week. Why? What's the hang up?

MS. RUCKART: We submitted our initial request in October or November 2005. It was a supplemental request to our fiscal year '06 budget. The reason why it had to be supplemental was because this is in response to the 2005 panel's recommendations. That's didn't come until June. That was past our initial '06 request. And then we had our response in August. So we had to make this supplemental, which we did that following our usual channels. And what we submitted was rather brief, but that's what we were used to submitting. And then the DOD asked for something further.

MR. ENSMINGER: When?

MS. RUCKART: That was, maybe, February, I would say. And we submitted something a few weeks after that. So let's say sometime in March. And then just a few days ago Frank got an e-mail for further details.

MS. DYER: So that's two furthers?

MR. ENSMINGER: Yeah, but this thing left your hands in October and what did it do, go through your pipeline?

DR. BOVE: Regardless, we're doing the work already. We're exploring the -- We've already contacted the DMDC. We've talked to CHAMPS several times. That's how I can tell you what I found. So we're already starting this

thing. Most of the money will be necessary to computerize this data set that I'm talking about; the housing records. And that won't take long. So I don't think that's a big issue. I really think that it's not going to delay the feasibility assessment. We're going to get the money. How much money, I'm not sure. But it will be enough to do the job. So I don't think that's a problem.

MR. ENSMINGER: Yeah, but what I'm trying to do is expedite these events.

DR. BOVE: Yeah, --

MR. ENSMINGER: We've been pissing around with this since 1992.

DR. BOVE: Yeah, I know. But I don't think it's going to delay a thing. I think the bigger problems are just what I was saying before. What are the constraints from that the data itself is going to present to us and limit what we can do? That's the question. How far can we stretch data that was collected for another purpose? The personnel records were not collected to do a health study.

MR. ENSMINGER: Yeah, I know.

DR. BOVE: And CHAMPS doesn't seem to have been necessarily that way either, but there are some good things about CHAMPS and I think we can exploit it, you

know. But all of the data sets have been collected for other purposes. The housing records, I don't know why they were collected. They're not in great shape, you know. But that's what we have. That's what we have. And we'll work with it. So that's the real constraint, not -- I don't think the money is going to be a constraint. I really don't think that's going to be a constraint. If it becomes a constraint, we can deal with it.

MR. ENSMINGER: Well --

DR. BOVE: But I think the problem is going to be just what we can do with the available data. What states we can work with on cancer registries. That's where the difficulty and the time is going to be, is working all that out to get a study off the ground.

MR. ENSMINGER: I'd like Chris to put up on his chart up there that CAP be afforded the opportunity to see what is budgeted for the Camp Lejeune situation.

MS. DYER: What was the question? What did you just ask? A request?

MR. ENSMINGER: That the CAP be afforded the budget items -- what's being budgeted for for the Camp Lejeune situation.

MS. DYER: The whole situation?

MR. STALLARD: Which is an evolving process because once

the feasibility assessment is then you're going to know what can be done, right. And then budgets will be developed and proposed based on that.

MR. ENSMINGER: I know that we are the driving force or some of it here, but to actually see what you all are requesting, we don't see that.

MS. RUCKART: We didn't tell you the dollar amounts. You know the activities. The activities are travel to meet with DMDC staff to see what data is available and the computerization of the housing records. That's all we've asked for at this point. As we mentioned, we need to wait and see the results of that assessment to further flesh out what our next activities will be and we can discuss that with you, but that's not going to happen until early 2007.

MR. STALLARD: I'd like to make a statement of I think what the obvious is here. And that is that we have now expanded the membership of the CAP to include the DOD. We have two people sitting here at the table engaged in this process, correct? So I think it's clear, all emotion aside, that we have people interested and participating in advancing this collectively and collaboratively, okay?

We are also finding out that there may be opportunities to improve our communication or business

practices in terms of how we respond bureaucratically in this new partnership between ATSDR and DOD, perhaps. It's just an issue that's come up. Why does it take from October to February to get another oh, by the way? Is that clear? So that's something that we can explore. This is a new relationship that's building, okay? So there.

Now, how do we move forward from here? If we don't have the feasibility study done yet, Frank, how do we talk about scientifically credible studies, endpoints, and populations?

MS. BRIDGES: Can I say something?

MR. STALLARD: You may, but not unless you have a microphone in your hand, okay?

MS. BRIDGES: All right. I haven't heard anything brought up about records -- hospital records, the old hospital records; before the new hospital was built. It was built along side it. The old hospital records, which would have gone back.

DR. RENNIX: Okay. I can answer some of those questions. If --

MS. BRIDGES: The new one was what, 1972?

DR. RENNIX: I don't know the history on that.

MR. ENSMINGER: It was in '83.

MS. BRIDGES: '83, okay. The old hospital records.

DR. RENNIX: The inpatient records, the records where the doctor writes notes down and puts it in a folder. Those are kept for three to five years and then they're destroyed, okay. Your personal health record is archived when you leave the service or your spouse leaves the service, if it's there. From my research on another case, when we went and looked for the actual health records in the files we found less than one-third were there. We might have found a sheet of paper that said the person had their exit physical. So what's happened is when people leave the service, they don't turn their records in, and it doesn't keep you from leaving the service.

MS. BRIDGES: Okay. You said that they're not there after five years, they just get destroyed?

DR. RENNIX: No, no. The record at the hospital. So when you go see the doctor and the doctor writes in a note, okay, those are in-hospital records. They keep those for three to five years and then they're destroyed.

MS. BRIDGES: What about patients in the hospital?

DR. RENNIX: They go in their health record, that folder that's the different colors, okay. That's what goes in that. That, if it's turned in when the service member leaves the service, goes to the

National Archives, the National Personnel Center, or to the VA, depending where you are in the system, all right. And if we have a Social Security number of the sponsor, we can go find those records.

MR. BYRON: Pardon me. You said if it's turned in?

DR. RENNIX: If it's turned in.

MR. BYRON: You mean the member was responsible for turning it in?

DR. RENNIX: When you leave the service, when you go to do your final checkout, you are supposed to turn in your dental record and your health record, and your family member records are archived from the hospital where they're kept. If they have them in their home, they still have them, nobody knows about it.

MR. BYRON: I've got copies of my medical records.

DR. RENNIX: You should have copies.

MR. BYRON: When I left, I thought that all went in.

DR. RENNIX: If you didn't turn it in, they would just note it in your exit document you didn't turn in your health record. That's it. They're not going to stop you from exiting the service.

MR. BYRON: So when you -- I don't really technically remember it, but I must have went to the hospital to get my records and then as I closed out all of my

business that's when I would have turned it in.

DR. RENNIX: That's correct.

MR. BYRON: Okay.

DR. RENNIX: I just retired in November. That's the process. It's been that way for years. And I've gone to the National Archives and actually pulled records off the shelves. So there's a folder for you in the National Archives or the VA that has your personnel record, your pay record, and your health record, if it's there.

MR. BYRON: I didn't know that it was an option that you could keep your records. I've got copies is why I said that.

DR. RENNIX: The rules are you're supposed to turn it in, but I've never heard of anybody being stopped from retiring or leaving the service because they're health record wasn't available.

MR. TOWNSEND (by telephone): Chris?

MR. STALLARD: Yes, go ahead, Tom.

MR. TOWNSEND (by telephone): I've got a copy of the index file for housing. Just as a matter of curiosity, that it shows in one house that I lived in it ranges from 1961 to 1982. So they're fairly inclusive for long periods. That's a 21-year period. And it shows every field-grade officer that lived in

that particular house. And then in the smaller quarters that I lived in as a Captain, it runs for a period of five years because it was a faster turnover.

So if you have those records, you're going to have the names and the ranks of people that we have probably never, ever contacted. I think it's critical to get those records, and it's called Optional Form 99.

DR. BOVE: Right. Those are the housing records we've been talking about computerizing. We have them partially computerized.

MR. TOWNSEND (by telephone): Okay.

DR. BOVE: They were computerized for the previous study. So only those people who had a child born at the base, because that's what the previous study was about. Those records were computerized and then there are information -- there's 90,000 records in this database. It corresponds to 66,000-some individuals. So the name of all 90,000, I think, is computerized, but the rest of the information is only computerized for 12,400 and some, okay.

So what we want to do is for all those 90,000 records we want to have the full information; the name, the rank, time period they were there, and the

address, okay. Now, what I would like to do with that database, once it's all computerized, it shouldn't take long -- that's what we're going to be doing the next couple of months with this money we're requesting, okay, is to see whether we can link it up with the personnel data. And the problem right now is that full name is not on the personnel record until sometime in the mid-70's. I can't remember exactly when. That's something that we can find out. But it doesn't go back to 1970 when the database at the -- the personnel database starts. The personnel database starts sometime in July 1970. I'd like to be able to go back to 1970. I'd like to go back before that, but no one seems to be aware of any data before that. But there's data from July or so of 1970 onward of those who were in active duty, but they don't have full name until the mid-70's. So you see the problem there, is trying to -- so I want to see what the feasibility is of linking these housing records with personnel records going as far back as we can. And then going from there to the National Death Index and then that is also a base for other studies.

MR. TOWNSEND (by telephone): Well, what I'm saying is that the listing I'm looking at has the last name,

the first name, the middle initial, and the rank, and the from and to date for where the person lived. That should be pretty straightforward. What I'm getting at is that all these people that lived and all these people are on this list were exposed.

Now, this is not to say that they have suffered any adverse effects or have died as a result of exposure, I'm saying that these people need to -- what I'm getting at is these people should be contacted to let them know that they have been exposed.

DR. BOVE: Well, okay. Not all of them -- First of all, not all of them have been exposed.

MR. TOWNSEND (by telephone): Why not?

DR. BOVE: Because they lived in housing areas that were served by Holcomb Boulevard, which was not contaminated.

MR. TOWNSEND (by telephone): Not from 1983 they weren't -- not from '73 they weren't. They were all getting it from Hadnot Point.

DR. BOVE: I'm not sure what you're talking about now. I thought you were talking about the housing information we have.

MR. TOWNSEND (by telephone): My housing area where I lived was solely serviced by Hadnot Point from 1942

to 1983.

MR. ENSMINGER: ’73.

MR. TOWNSEND (by telephone): ’73.

DR. BOVE: All right. You’re talking about just the housing units that had contaminated water. Those people haven’t been notified. Is that what you’re saying?

MR. TOWNSEND (by telephone): That’s correct.

DR. BOVE: Okay. Right. They haven’t been notified. My own feeling about this is that when Morris has that data up on the web where you can, right, put your address into the website and date you were there and you’ll know whether you were exposed or not and to what levels and to what contaminants. I think that’s a good time to get the word out. That’s my feeling about it. We can -- the CAP can discuss this issue, and that’s on the agenda -- notification is on the agenda. That’s my feeling about it is that once we have something to tell everybody -- because if we start notifying people now and we tell people that there was exposures -- a number of people weren’t exposed. I don’t want have any confusion when we do a notification effort. I want people to be able to find out once and for all whether they were exposed or not. And not worry about exposure if they weren’t

exposed or vice versa. That's my position.

MR. BYRON: Okay. I think that what Tom's saying is once we identified those that have been exposed, that there is a list of everyone who lived in that home, and that those individuals whether or not they should be contacted by the DOD, ATSDR, whoever, I don't know that we should just leave it up to them to come find a website and see that they were exposed or not. They should have a letter. I think that's what Tom's saying. Am I correct, Tom?

MR. TOWNSEND (by telephone): Yeah.

DR. BOVE: Well, we'll have it on the website. We should do whatever we can to make sure -- whatever we can.

MS. RUCKART: Publicize the availability of the website through the various channels. We can discuss that later. But then everyone will have the ability to go in and put in their own address and check it out.

MR. TOWNSEND (by telephone): You're dealing with a population; some of us are in our mid-70's at this point in time and are not particularly computer literate. I happen to be a ^, but I use the computer when I have to. But what concerns me is that we have listings of people and we know their names, we know

their ranks, and we know the exact dates when they lived in this house. And when Morris gets his water distribution model and survey completed, that will be very useful. But at the same time, I think all these people -- the latency period for this exposure is incredibly long. My wife died just about two months ago after 40 years after the bloody exposure. And the autopsy and the biopsy all say this is related to trichloroethylene.

DR. BOVE: Well, your point is well-taken. When we talk about notification, and in the future when we talk about notification, too, we need to keep in mind just what you said, that there are a lot of people who are not computer literate and we need to have a strategy for reaching them as well. So we're not ruling that out at all. I'm just saying that once we have the information -- maybe I should put it that way, whether it's on a website or wherever it is. Once we have Morris' information for the entire base; for all the water -- for Hadnot Point and for Tarawa Terrace we need to come up with a strategy that the people who need to know find out.

MR. TOWNSEND (by telephone): Frank, you know, when you all published the public health assessment in 1997, it basically said that everybody above 19 years of age was

probably not going to be affected. And that is obviously false because my wife was 73 years old two months ago and she certainly was exposed and certainly had a dreadful adverse effect.

DR. BOVE: Right. Well, that's why we're going to look at -- we're exploring studies of other populations.

MR. TOWNSEND (by telephone): I don't want it to drag on for another year or two when you might be able to tell somebody, if you know, that they're at risk. I don't know what the hell you do about it when you find you're at risk. But I think they're entitled to know on a moral and ethical basis.

MS. DYER: Well, Frank, can't we go ahead and start talking about doing notification and a registry at the same time? Do them simultaneously, parallel to each other. Do those and let's go ahead and set a date because the ATSDR, you are a registry. So, you know, you need to start that registry. And so do them both at the same time. When can we get that going?

DR. BOVE: We haven't discussed doing a registry. That hasn't been discussed yet.

MS. DYER: We did discuss it at the last CAP meeting.

DR. BOVE: Well, I mean, it hasn't been fleshed out. I mean, a registry to do what? We haven't discussed what the purpose of the registry would be, what kinds of

things we would ask in the registry, what the purpose of the registry is, what do we hope to accomplish from the registry.

MS. DYER: Isn't that what the ATSDR does?

DR. BOVE: ATSDR has done registries in the past.

MS. DYER: Well, then you know what they're supposed to accomplish and what -- you know.

DR. BOVE: They're different in every situation -- they're different in different situations.

MR. ENSMINGER: What was the purpose of the -- I guess it's defunct now, but the TCE registry? The TCE registry, I guess it still exists, but they're not adding any more people to it; that ATSDR had in the past?

DR. BOVE: I'm not sure how to answer this because it's still, as far as I know, under review as to the future of that registry. I would rather not talk about past registries. I would like to talk about if we want to do a registry, exactly what would it look like and why we would want to do it and what focus it should have and so on. I would prefer to talk that way than to revisit previous registries because I have feelings about them and I just want to avoid having that discussion if at all possible.

And let's talk about if a registry is being discussed, just exactly why we would want to do it,

what kind of registry it would be, what the purpose of it would be. Dr. Clapp mentioned at the last CAP meeting about an effort that was sort of like a registry, that Lipari Landfill. So that I think when we talk about prevalence studies, we can talk about it there. But I'd rather not talk about past registries because it's under review. I'm not part of that review process.

MR. ENSMINGER: It's like David Ozonoff said at the last time, what is this, ATSD?

DR. BOVE: Well, our name is unfortunate, but there's nothing I can do about our name. But if you remember from the scientific panel, there was a discussion about registry and the chair of the panel was trying to get people away from using that term because it meant different things to different people. And so I think that was a good move on his part. We need to flesh out what we mean by registry then. So we haven't had that discussion yet. That was for this afternoon.

MR. STALLARD: Just a moment, please. I have a request to have Morris come in earlier on the water modeling. He's on leave and is coming in specifically to give you the presentation at two o'clock so...

MS. McCALL: Did he not know we were having a meeting today?

DR. BOVE: No, he's on vacation.

MS. RUCKART: Denita, it was so hard to get everyone's schedule to align. We have to take into consideration when the room is available and ...

MS. McCALL: But I just feel like Morris is the most important component to this meeting today, and he should not be at two o'clock and only give us one hour to discuss the water modeling. I remember ending at three o'clock last time and it wasn't enough time. I don't believe two o'clock to three o'clock is enough time to talk about this very, very, very crucial component.

MR. ENSMINGER: Well, I think his presentation is going to generate a lot of questions.

MR. STALLARD: It probably will and his presentation is a preliminary, as I understand it, step prior to what? What does it take for it to be less than a final --

DR. BOVE: It's going to be preliminary results that need to go through a review by what we call the collegial review by someone from USGS, and then it goes to an outside peer review, okay. Then it goes through agency clearance. And the reports will be ready by -- he'll tell you all this, but I can tell you this now, sometime

at the end of summer, okay.

So he's going to give you what we know now. Are the numbers going to change, are the dates going to change? They might, but probably not. But, again, they have to go through this process. If one of the reviewers can see a flaw, then we need to address it. So it could change, but we don't expect it to. I think that it won't take that long, actually. And there's always the next CAP meeting to continue the discussion. But I think you'll have enough information in an hour.

MR. STALLARD: I need to check the pulse here of the CAP because A, we want to have an outcome from these meetings. The agenda says that we were going to look at the issues of scientifically credible studies, notification, prevalence surveys, and the issue of registry. So although we're having good informative dialogue about many different things, I need to try to focus us on, you know, Frank says well, we're going to talk about registries, right.

MS. DYER: This afternoon.

MR. STALLARD: Well, when is the time to talk about it is my question to you. Of these three items on here, scientifically credible studies, notification PSAs, and prevalence surveys, which we now understand to include registries, correct?

DR. BOVE: Yeah.

MR. STALLARD: Which one can we -- what is the highest priority for the highest potential impact and good that we need to discuss first?

MS. DYER: I think we need to discuss -- and I don't think we need to wait for this afternoon because it's not going to give us enough time -- doing a notification and letting that be included in the prevalence studies. We need to talk about how we can do that. How we can do a registry. And we haven't done a registry before. The CAP members haven't done one. ATSDR has done them in the past. And so we do need to rely on them for the past information on how to do a registry. So you tell us how to do a registry, and let's go ahead and put a timeline on getting that started along with the notification.

MR. STALLARD: So Terry you're suggesting to collapse both notifications and a registry into one?

MS. DYER: Yes, absolutely.

MR. ENSMINGER: Everything we're talking about here hinges on the water modeling.

MS. DYER: Depends on the water modeling. And I understand that. I just don't want to come back, Jerry, and have to go over how to do a registry.

MR. ENSMINGER: Yeah, but we can't set some of this stuff in concrete until the water modeling data is --

MR. MARTIN: Right. And until that's done, we're spinning our wheels sitting at these meetings.

MS. McCALL: Right. Notification PSAs and prevalence surveys right now are -- I don't know, obsolete until we get a water modeling done. We can't even begin.

MS. DYER: And that's been our whole thing, you know, coming to this CAP meeting and any future CAP meetings and that we can go ahead and bring that up now. Is until the water modeling is completed, we're not doing anything here. We don't have the information we need to be able to move on. So I don't want to have another CAP meeting. I'm wasting taxpayers' dollars. I'm wasting my time. And it costs money for them to be away from their businesses, all of us. I don't want to come again until the water modeling is completed, unless we know we're going to get something concrete done.

MS. RUCKART: Look, Terry, the issue isn't whether there was exposure, it's just who was exposed. We know that some population was exposed. So I think that we can just work from that premise and plan future activities. We don't know right now the exact group of people, but I don't think that stops us from moving forward. It's not like we're waiting for the water modeling to answer was there even exposure there at all.

DR. BOVE: Let me break in here. I'm sorry. This is what we know. We know it right now. We know that Hadnot Point was contaminated with TCE, okay. We know it was high levels. Exactly how high? The modeling will tell us. The modeling is not ready yet. But we know there are high levels of TCE in the parts per million range. There is no question about it. There is no question it goes back far in time. How far back? We've not done the modeling yet. He's not going to talk about Hadnot Point because we haven't finished that. We haven't even started really – well, we've started, but it needs to go through a process. Where we are – the main thrust of his talk will be about Tarawa Terrace. Again, we know there was PCE in the water. We know now – we have a sense of what the highest levels were on average -– in a monthly average. He's going to talk about that. We also know that it goes back to the late '50's. We've known that before. So there's nothing new really revolutionary or new in Morris' presentation today and there's nothing new that you didn't know before you came in the door today.

So there's no reason, absolutely no reason, I can see why we can't discuss future studies. We have the information that we need. Whether the date that

Tarawa Terrace reached five parts per billion started in ’58, ’59, ’57, doesn’t mean a whole lot. It doesn’t matter, first of all, because it’s going to be hard to go back and get those people anyway. We don’t have – we only have data that’s computerized in its limited fashion back to ’70, right, with the personnel record. So unless we find another data set somewhere that may be in someone’s desk drawer, but that’s what we have. So it doesn’t matter when the contamination –- date when contamination started at Tarawa Terrace. You know it started by 1960, I think, it could start there. That’s good enough information for us to talk about. I guess it’s not clear to me what information you think that you don’t know about the water information that’s precluding you from having this discussion. That’s what I’m having a hard time understanding.

MS. McCALL: Well, why is he on the agenda if he doesn’t have anything new to tell us?

DR. BOVE: He does have something new to tell you, but it’s not of the nature that would change the discussion. That’s all. Yes, and we want you to be updated, but it has no real bearing on our discussion, because we already know the basic facts. Hadnot Point was contaminated with TCE goes way back. Tarawa Terrace had PCE, it goes way

back. Holcomb Boulevard wasn't and Holcomb Boulevard went online I can't remember the exact date sometime in '72. Morris knows by heart at this point, but I keep forgetting. And that's what we know. We know that right now. We knew that yesterday.

MS. DYER: Okay. If we know that then can we just go ahead, since it's not that important, we know most of it, can we go ahead and start talking about how to do a registry?

MR. STALLARD: Sure we can, if that's what the group wants to do. Did you have something to say?

MR. BYRON: I'll table it so we can move on.

MR. MARTIN: I've got one concern. You know, we're talking about trying to contact and locate and find people all over the world. We've got close to a thousand people that have found us on our website. And I know we talk about studies and what we're going to do when we find these people and how we're going to notify them. What are we going to do about the thousand people that we have now? Is there any way that we could start an interview process? What are we going to study? I am totally confused about when we get these 200,000 people in this room, what are we going to do with them? We haven't discussed any of that. We talk about surveys and studies, this TCE,

these toxins, have been studied for the last 40 or 50 years from what I've seen; over several periods, several times. Everybody knows what they do. But everything is inconclusive except that we have people that lived at Tarawa Terrace that drank the water and played in the water and ate food that was prepared in the water and we're burying them every day. And this has gone on since 1980. I mean, we keep talking about two months down the road, three months down the road, five months down the road. You know, I've seen people die over the last couple of three months.

MS. RUCKART: Well, you know, Jeff showed that slide before –- Dr. Fisher –- and he had the different studies that have been done and he had his little rating system, the three minus signs, plus minus plus, and the three pluses. And we want to make sure that the study that we do could show the most. We don't want to put something else up there that come back and say this doesn't really help us. That's why we need to really flesh it out further. We want our study to be on a slide and people to say, like, yes, this showed us something. So that's why we need to think more about it and that takes planning. And I know that everyone's frustrated with the bureaucratic processes that we've discussed, but when we put

something up there we want other people to look at it and say this was good, this was good work. This adds to what we see, not this confuses us more.

MR. MARTIN: But how are we going to do the study? I mean, are we going to call the people in, are we going to interview them, are we going to say -- we do have to determine whether they're actually sick or not.

MS. RUCKART: Correct.

MR. MARTIN: You know, because the world is not full of honest people.

MR. ENSMINGER: But how are these studies going to be done?

MR. MARTIN: We need to have an outline of what's going to happen when we notify these people, because we don't have answers for anybody right now. We don't have answers for ourselves.

MS. RUCKART: Again, it goes back to the feasibility. We need to see who was there.

MR. MARTIN: We have a thousand of them.

MS. RUCKART: We need to see who was there on base during as early as we can get that information to when the contamination stopped. That's why we need to get more information from DMDC. That is step one and we've been talking about that all along.

MR. MARTIN: And when we have that, what are we going to do?

MS. RUCKART: Then when we have that, we plan to link it with mortality data. We talked about that maybe we could shorten that process by not needing to go to OMB because we wouldn't have to contact people because we would just be looking to see what did they die of and we can get that from that National Death Index. So that is something that we are working towards, we're actively working towards. Once we have DMDC data, who was there, key point, then are they dead? What did they die of?

And then we've talked about the cancer incidences. That would be, you know, the logical progression of what can we do the quickest. And I know it's not quick in your mind, but that's honestly the quickest. Then we can look at the CHAMPS data. We can look at these other cancer registries that we've discussed in the states where a lot of Marines retire. And we mentioned before, we want to look at CHAMPS and try to do something real quick just to see people who lived at Camp Lejeune are they reporting other health conditions, realizing that there's going to be other -- if we compare it to people who didn't live at Camp Lejeune, maybe they also lived somewhere

where there was contamination, but just to see is anything jumping out. And that can be a starting point for these other endpoints. But that is something that we want to discuss with you. If there are other endpoints that you want us to consider, we can talk about that now.

MR. MARTIN: Well, I think we should consider contacting some of these people and finding out exactly what diseases we're involved with. I know cancer comes up very often. You've just described getting a -- or compiling a tremendous amount of data. We've talked about budgets. We've also talked about staffing. So when we have all of this data together, are we still going to have two people in your office looking at it, analyzing it, making decisions, making determinations of well, yeah, this person sounds like it could have been kidney cancer, but it probably isn't. So we'll put them over here into, you know, --

MS. RUCKART: One thing I'll tell you, though, while it may seem like we just have three staff members working on the project, that's true; where we have three Division of Health Studies members right now working on our current study. But we actually had more people than you might think because the

interviews were done by a contractor and they had a whole staff. So it wasn't just like the three of us contacting, you know, thousands of people. We did have more help. It's not, maybe, obvious or really apparent, but when we do these other studies, again, we would use a contractor mechanism. So we would have more help than maybe it appears, but I guess it would depend on if these things are going on concurrently if we could -- What we do is we budget how much staff time we need for a project. And for the feasibility assessment we have enough in-house staff right now to do that. When we talk about future studies we'd have to determine the number of person hours and then we'd have to see do we have that currently, and if not, we'd have to see about getting it.

DR. RENNIX: Perri, I have a question. Is the tough part of this whole process the review by your scientific committees and your peer reviews; is that what really causes this process to drag out? If those things were lifted away, how long would it take if you had all of the data and Morris' model is done, the cases have all been ascertained and all the surveys were done, how long would it take -- then you tack on all of the bureaucratic stuff.

MS. RUCKART: Okay. I'll give you some indication. We started with our contractor in October 2004. So that means that we're meeting with them to try to outline how are they actually going to contact these people and these are the questions we want to ask, we need you to get it in a computer system so when they call them and interview them they can have the information already entered into the computer as they're talking to them. So we started with them in October of 2004.

And they were able to contact the people, get the computer system set up, complete the interviews by July 2005. And then they had to go through and look at their data, make sure that what they were going to send back to us was accurate and clean, and we got data from them and we were finished with them by September 2005. So that was about a year. So that is once all the red tape of getting our protocol approved through all those mechanisms we talked about. We started with them in October; to interview that was about 800 people, but they were trying to locate, maybe, let's say a thousand people. They ended up interviewing, like, seven, 800 people. That took a year. So if that gives you some sense of how long that process would take.

Then as far as -- let's say, if we have the water modeling data at the same time. If we had had that in September, we would still need a few months to analyze the data to really get at which variables are we going to look at and do our statistical modeling and then write a report we'd still need probably another, what, six months for that process, would you say? If everything was running very smooth, analyze the data, three to six months, write a report, three to six months. Maybe six months to nine months more. But that's the ideal picture.

DR. BOVE: I think it depends on what kind of study you want to do. I think we need to take a step back. Just because you have a thousand people on a mailing list doesn't mean necessarily it makes sense to contact them for a study.

We have to start thinking strategically. What do we want to do? Do we want to have a scientific credible study? Do we want to just find out what people are sick of, what kinds of things that might be important to us, which will not necessarily be a scientific credible study? What do we want to do? Do we want to notify people? There are different strategies for different purposes, okay. Some are better than others. In the case where we talked

about doing a cancer study, right, the first thing that we would probably do is go to the cancer registries that we can work with, with any information we have, and see how many of those people had the particular cancers, okay. And that's part of a study. Then, we can turn around and interview those cancer cases, take a sample of the people that don't have the disease in the same population of Marines at Camp Lejeune and do it just like we're doing in the current study.

So you can both have an interview portion and you can have a non-interview portion of the study, and get useful information out of both. It doesn't mean contacting these thousand. It means contacting the cases of the cancers. So it really depends on what you're trying to do who you contact, would it make sense to contact them. That's why I want to see if we can think strategically, okay?

MS. DYER: Okay.

DR. BOVE: Not because we have 12,594 people we contacted a couple of years ago, whether it makes sense to contact them again necessarily. That may not be the most effective way to do what you want to do. I want you to think that way. I want you to think of what is the most effective way to do what we

want to do. And the first question is what do we want to do? What do we want to do with this information? Do we want it to be strong enough to stand up in court? Do we want it to be strong enough so that scientists will take up and notice or what? Or do we want to just get some sense of what the situation is among people for other purposes; getting them healthcare or something else. There are different purposes and depending on the purpose, there are different strategies that are more effective or less effective. That's what I'm trying to get us to think.

MS. McCALL: Okay. With all of those scenarios, standing up in court, getting healthcare, getting attention from scientists, what scenario would cover all those bases? Would it be a registry?

DR. BOVE: No.

MS. McCALL: Would it be a survey? No? What it is then? What's the magic word?

DR. BOVE: That covers all the --

MS. DYER: What is it?

MS. McCALL: Dr. Clapp, do you know the answer?

DR. CLAPP: I'll give you my answer.

MS. McCALL: Okay. Good.

DR. CLAPP: I actually think we're on the right track

here. I know it's frustrating it's taking so long, but trying to assemble this list from the housing records of who was exposed and who was less exposed, let's say, and then linking that to the National Death Index to see what people died of, that's a scientifically credible study. It's in the literature all the time. Usually it's with workers who worked at a factory or industry, what did they die of. And then that goes into the literature and we learn things like Jeff was showing us about okay, these people were exposed to trichloroethylene and they died more of kidney cancer than other people. That, I think in a community setting like this, will add to the literature if that's what we find in this mortality study.

Cancer incidences is even better. I've done both of them, actually. I think I mentioned this last time. I did both of these on Vietnam veterans; mortality in Vietnam veterans compared to other veterans. That's in the literature. That's part of why Vietnam veterans are now compensated for soft tissue sarcoma, was that study. Then I did the same thing with cancer incidences. In there, you know, not everybody gets cancer, thank God, dies of it. So there's a lot more data, you get a more powerful

study with the same starting list. You get more cases to look at, and if you can associate them, the cases of some individual type of cancer with more exposure to trichloroethylene in Camp Lejeune water, that goes right on the list. That's a plus, plus, plus study. And then, you know, and we wanted to help people who call or come into your website saying I'm worried, I lived at such-and-such address, I've got some symptoms. And maybe I think it's my immune system and I get too many colds. You might say as a service to that family this maybe that you're at increased risk of cancer called non-Hodgkin's lymphoma. You ought to see your doctor to get that checked out. So that's a service, I would say, or a counseling type --

MS. McCALL: Okay. So when you keep saying list, are you referring to a registry?

DR. CLAPP: Yeah, I would say in my view right now, **--.**

MS. McCALL: We need a registry.

DR. CLAPP: -- I'm talking here right now, that a list that we're talking about from these cards is the registry.

MS. McCALL: So we have a registry?

DR. CLAPP: We are getting it.

MS. McCALL: We're getting a registry from the National Death Index?

MR. ENSMINGER: No, no, no.

MS. McCALL: From the housing records, okay.

DR. CLAPP: So that, in my view right now, as I sit here is what in this context is the registry. Some people think a registry means you have to be more ^ and that's just not a list to see who we contact every month in the newsletter or it's -- that's what this Lipari thing was, actually. A newsletter went out to members who had signed up saying keep me informed of what happens -- what's happening around Lipari. That's a more active registry.

But I actually think that this initial list of who was living where at Camp Lejeune is the registry, and it's the most complete registry that could be gathered and it's a really important scientific step to take and it would be an important service to the Marines and their families.

MS. McCALL: Right.

MS. DYER: And so once that registry is compiled, you're going to need personnel to call those people with a survey.

DR. BOVE: No, see that's where things start breaking down because a registry can be done in different

ways. That's why I try to stay away from the term because what we did -- the way we did registries in the past has been problematic, and that's why it's under review, to be honest with you. And I said this at the scientific panel, whenever that was, okay. And I don't want to revisit that.

I just want to say that there are various things you can do with a cohort. I like to use that term better than registry. Because we say the term registry and people start thinking about what we did in the past, which was collect -- do interviews of people, but not verify diagnoses and to tell you the truth, you don't see it in the TCE literature. None of the risk assessments or literature, really -- I didn't want to do that. So seriously, I don't mind using the term registry, that's fine; cohorts, registry, whatever. My question is what to do with that information. What's the best thing to do with that information? And there's several things I've been talking about.

One, again, was -- and Perri mentioned it too -- was to link it with the National Death Index. I just would like to be able to determine, using the housing records, which people were exposed and which weren't. And I said before, part of the problem is

if you try to go far back in time you run into the problem with personnel records not having full name, but that's a complete registry. It's much better than the thousand people you're talking about. It's the actual complete group.

MR. ENSMINGER: And this would be a barometer?

DR. RENNIX: The mortality studies.

MR. ENSMINGER: This mortality thing that you're talking about would be -- and cancer incidences would be a barometer to see --

DR. RENNIX: Kind of like what I call a hypothesis generating exercise. So they look for things that don't fit the normal distribution you would expect to see and say oh, this appears to be -- it's related to TCE exposure, it's elevated. Now we have a group that we can study and see if there really is something there related specifically to TCE or it could be some other exposure they had or it could be that they were all heavy smokers, you know, in that one area, you know. So that's generally what you do is you're trying to generate places to look and really dig in and do the hard -- do the surveys, do the interviews, verify the cases, so that you can actually get science out of that.

MR. ENSMINGER: Now, the results of this would be

scientifically significant?

MR. BYRON: We hope; if it's conducted right.

DR. BOVE: Yeah, basically the strategy that Chris is just mentioning is you have a cohort, you find a disease in that cohort, and you can then get a sense of whether there's an excess, and then you can go interview the case. The best way to handle a situation like this is then go back to the cases of people with the disease, take a sample of the rest of the population that didn't have the disease, a small sample. Now, you have a manageable -- which is exactly what we're doing in the current study. Now, you can interview them -- a smaller group -- and get occupational information, get complete housing history, if you know, so you know where they lived. You can get smoking and all kinds of other things and people keep saying well, your study's flawed because you didn't take into account smoking, this, that, and the other. You can collect that information and you have a scientific credible study.

MR. ENSMINGER: Now, you're covering mortality and cancer incidence with the limited number of people.

DR. BOVE: As wide a range as we can get. I mean, as far back as we can go. If we can go back to 1970, at least, with the personnel record it will be from

people who lived there who were active duty -- now we're talking about the cohorts, too. We have active duty from the personnel records. We have civilians that also go back a certain distance in time. We have employees who, which only we have name only going back to 1980. All these data that exist -- and again, I think this is -- what I found out so far that we need to go over there. I want Chris to come with me. I want Dick, if he can come with me, to go to San Diego for the CHAMPS database and go to DMDC in Monterey -- bring my surfboard -- and actually find out exactly what the data looks like and what the limitations are. So we're not talking about that limited at all. We're talking about as many people as we can find, that we have data on, that we can link with the housing records to go to the cancer registries and the National Death Index, find out which diseases seem to be elevated, do a case-control sample of the cases are that elevated disease and the controls are a sample of the people who don't have those diseases in the same populations. And there have two -- those are great studies right there.

MS. RUCKART: It's not a sample of the cases --

DR. BOVE: Let me continue. So that's cancer and that's death. There are a lot of other illnesses

that are on your list. And the only way, right -- now we're talking strategically. So how can we do this? What we've done in the past with the TCE registry was we interviewed people, they told what they had, we compared it to the National Health Interview Survey.

MR. ENSMINGER: Yeah, I saw the results.

DR. BOVE: And those studies -- what's the best way to put this? They don't have high regard in the scientific community for these studies; is that fair?

DR. CLAPP: That's fair.

DR. BOVE: Okay. So you have to keep that in mind, okay. Now we're thinking strategically. That's why I wanted to use the CHAMPS data, because the CHAMPS data is inpatient data. They don't have ambulatory data until later. They have inpatient data, at least from 1981. And you've pointed out some of the problems with that. If you resign, you leave, you're gone. You're right. So I don't know what to do about that other than we can at least study the people that we have information on and we've got to think hard about what would be useful to get at these other diseases, or is it possible to get at them in a way that anyone with any -- in a way that it would be credible to the scientific community.

Because if you want to use any of this research in court or anything, or even to advance knowledge, you're going to have to find a way to verify these endpoints.

MS. McCALL: In court what it's going to come down to is expert against expert. That's what it's going to come down to.

DR. BOVE: Sure. But in order to even get to first base in court you have to have -- you have to show a judge that you have scientifically credible evidence. It's called the Daubert gate, if you will, because it was based on a decision by the Supreme Court called the Daubert decision. And I'm not a lawyer, so that's as far as I'm going on that. But just keep that in mind that in order to get even to first base -- if you saw the movie *A Civil Action*, you saw what judges can do. So you need to -- of course, not all of that was done before the more recent Woburn study, which is a stronger study. But even so -- but I think we all want to see research come out of here that makes a difference. So that's all.

MR. MARTIN: I just need to take everything and make it real simple, okay, because the science, I agree, is important, but I see the science going on for another 20 years. My point -- and I don't know what

everybody else in the room wants or which direction they want to head, I want to find out what we have to do to make this government admit its liability in this matter and take these people that are sick and ill and get them treatment, or at least make their lives as comfortable as they possible can for what time they've got left.

MR. BYRON: Can I see if I can summarize this at least as how I see it so that the rest of the CAP members can possibly -- if I'm wrong, you can correct me. So what we're saying right now is first off there should be a feasibility study to see if there is enough data out there to even conduct any further studies. In other words, what's in the mortality index? What's in the incident cancer index? So as a cohort to the people that lived in Camp Lejeune, say Tarawa Terrace for instance, you're going to go back and you're going to see what cohort, what people lived there, then you'll compare that to the national cancer index and also the mortality index. And from that if you have, say, 20 percent of the people dying of heart attacks that are related to TCE or maybe not even related to TCE, 20 percent have heart attacks and die, 50 percent have liver cancer. The national average for tests in liver cancer is two percent.

Well, there could be an indicator, right? So maybe that's the one that we want to look at.

So then you move on to the mortality study of incident cancer after you know you have the data there, right? And then --

DR. BOVE: Let me try one more -- it is confusing. So let me see if I can do it.

MR. BYRON: But the feasibility study has to come first to see if we have the data or not?

DR. BOVE: All right. So the first thing you do is, right, you do a feasibility assessment, and in talking about that this is what have the personnel data looks like, this is what the CHAMPS data looks like. We know what the National Death Index looks like. The cancer incidence data in the various states, we need to find out what we need to do and how far back the cancer data in those states go. So that's part of the feasibility study.

Once we've done that, we have housing records, which can be the basis of registry, cohort, whatever you want to call it. Again, I'd like to link that up with the personnel data so that we have Social Security number from the personnel data. We need the Social Security number to go to the National Death Index. We have the housing information to tell me

which people were exposed and which weren't, okay. The National Death Index and heart disease comes up as in excess compared to either the general population, to other Marines, or better, to the exposed Marines versus the unexposed Marines at Camp Lejeune, okay.

Then we can interview those heart disease cases, take a sample of this cohort, this registry of people who didn't have heart disease and see all right, we know about their exposure, but let's get their full residential history. Let's find out if they have any occupational exposure. Let's make sure they didn't get exposed to Agent Orange or Gulf War whatever they were going through and smoking and all of that stuff. And then you do the same thing for the cancer registry stuff. You use that cohort. You go to those -- Now, for the cancer we're going to maybe limit it to certain states, because there's no such thing as a national cancer registry. So we're going to think -- it's difficult, but we can do something. We can pick the states where you think most Marines probably ended up.

MR. BYRON: So the cohort will get smaller, but it will still be studyable possibly.

DR. BOVE: The cohort will get smaller, but what can

you do. Yeah, this is life. You can still do stuff, yes. Credible stuff, okay. So we do that, we go to the cancer registry with this information from these cohorts, and there's some difficulties in here, but we can work it out. We find out which cancers seem to be elevated, once again. And again, we go get those cases in a sample of controls and we interview those people. So that's how that progresses.

Where I'm having a problem thinking about strategically -- and this is why I'm glad Chris and Dick are here -- is what do we do about other diseases. Is it possible to do something good worthwhile looking at any of the other diseases on your list, or is this not the best population to do that and we just can't do a scientifically credible thing.

And then, okay, so if we decide that or -- give me an example, give me a disease that's on the list that's not a cancer or --

MR. ENSMINGER: Liver disease; Tom's wife.

DR. BOVE: All right. Liver disease.

DR. RENNIX: Cirrhosis of the liver.

DR. BOVE: Yeah, let's say cirrhosis of the liver. So we can't -- we think we probably can't do a scientifically credible study -- if we want to look

at diseases like that in a scientific credible way we would need to be able to verify the diseases. It would be difficult. I'm thinking who would you do an interview of? I mean, you'd have to do all of the people in that cohort. I mean, this is something I have to think about myself. I'm not sure.

But the difficulties I see of looking at other diseases is verification. Full ascertainment so we don't miss anybody who has the disease and then verifying that they actually have the disease. That's -- you don't have to worry about that with the cancer registry. You don't have to worry about that with a National Death Index. But you do have to worry about it for diseases that are not covered by registries like this. And the National Death Index is a registry. So that's where I'm having difficulty thinking about what could be scientifically credible.

Now, there are other purposes in mind, you know, like services, you know. And I don't have any interesting things to say about services other than I think everyone should have -- there should be a national health program in this country, but that's something that we can talk about, too. Does that help you now?

So there's the exposure side of the equation,

which is the personnel records, the housing records, Morris' water modeling, all that's over here. And the problems there are the limitations of the personnel data and the illegible housing records, okay. On this side we have the cancer registries, the National Death Index; they're fine. And then that's what we have.

MR. BYRON: I just wanted people to understand, and I don't think the studies are going to be done in a year. I don't think they're going to be done in two years. I don't think they're going to be done in five years.

DR. BOVE: Well, they don't have to take 20 years. They don't have to take 20 years.

MR. BYRON: They don't have to take 20 years?

DR. BOVE: No.

MR. BYRON: This one hasn't taken 20 years that were in utero.

DR. BOVE: Well, let's take a look at how long this study --

MR. BYRON: Some of it's been going on since '97. Believe me, I've got two kids. I don't want to get into that.

DR. BOVE: This study has taken quite a long time because we had to do a survey. See, this is the

problem when you're looking at diseases where there are no registries. Nowadays, we could have done this study a hell of a lot quicker, because there are birth defect registries. There are cancer registries. If the exposure started in 1995 instead of 1950-whatever, right.

MR. BYRON: We didn't get started until '97, right?

DR. BOVE: I'm just saying that in order to -- so this study started roughly around -- the protocol was written --

MS. RUCKART: '98.

DR. BOVE: Yeah, sometime around '98. And we had to go through all of these clearances, right.

MR. BYRON: But that's what I want people to understand. This current has been going since '98.

DR. BOVE: And it's still going on.

MR. BYRON: This isn't going to happen overnight.

DR. BOVE: No, no. But now, there's a couple things that are accomplished. One is we don't have to worry about the water modeling anymore. It's done and will be done. So that's -- and notice, I haven't said we were going to contact tens of thousands and interview tens of thousands. You don't need to do that. The most efficient way is to interview cases, a smaller number. Because all these diseases that we're

talking about, they're rare diseases in a sense of it's a manageable number of people that you interview, okay. So the studies don't have to take 20 years. They do take time for all the reasons that we've talked about, all the clearances. It does take time to interview people. It takes time to analyze the data we record. So it does take time, but it doesn't take 20 years.

MS. DYER: Okay. So if we do -- if we take the death mortality and the data that we've been talking about and getting it from the base housing and everything like that, then we can take and do a prevalence survey with those people so that you've got a list of other diseases, and so am I correct? Because you were talking about doing a prevalence study, and see, you were talking about what kind of diseases do we list and all that stuff.

So if you're sending out that data that once you compile that, you know who lived there, you've got a cohort to work with, then we can take and do a prevalence survey and list, you know, your liver diseases, you could list cyst, you could list thyroid problems, reproductive problems and all that and you've got that cohort and you've got that prevalence study and that shows you. And then you're going to

compile that and you're going to see all the different illnesses, and that's where you're going to get your data from to see whether or not to continue a study, correct?

DR. CLAPP: It's possible to do that. That is what was done with the Lipari list.

MS. DYER: Okay.

DR. CLAPP: There was a prevalence survey; it was mailed. It was sent by mail to people, they filled it out. We gathered the results and we computerized them, and we said wow, it looks like this group of people had a much higher prevalence of -- let's see, nosebleeds, actually, was one of the findings.

MS. DYER: Okay.

DR. CLAPP: And it was especially true of people who lived near the landfill. So then that actually was never published. I don't know that we could have gotten that published. It was a subset of a subset that responded to the survey, but it was part of a lawsuit. It was used as a justification for medical surveillance that was a result of a lawsuit. I don't think ATSDR would fund a survey like that. That would have to come from some other source.

MS. DYER: Well, then DOD can fund a survey. After lunch, can we talk about what we want to do as far as

going ahead and you working with ATSDR to get a survey compiled to send out to the people that we get from the database?

DR. BOVE: Lipari actually is an interesting example because at Lipari what was published was a birth outcome study -- adverse birth outcome study using birth certificates to determine whether the child was born small for gestational age we call it or low birth weight even though they reached term, okay. That study actually was published and actually had some impact on the scientific world because we can verify from the birth certificate, and there were problems with the birth certificate, at least you can verify that they had this weight and this gestational age and you can do a study.

It's the same thing again. The diseases where we have registries where we can verify the disease outcome, those are the credible studies. The studies where, like, our previous registries where you don't verify the studies, they're less credible, and that's real life. That's what's out there. So you have to think that way.

If you don't verify the diagnoses and as we said, even in our study we had people saying they had the disease and they didn't. And I don't think

they're lying to us. I think there's confusion, you know. Maybe they didn't get proper medical care either, who knows. I'm willing to say these people are all honest and I just don't know why, okay. But it's the fact, they didn't. They said they had this disease and they didn't, you know. And that is how scientists and the courts look at this stuff, you know. So that's why I'm saying to think strategically.

You have a list already. You don't need to generate a new list of diseases. You have a list of diseases that your thousand people have already given you. There's also diseases in the literature. TCE and PCE are neurotoxins. There's plenty of occupational information about what kinds of diseases you get when you get high exposure. That's not what's needed, I don't think. But this is where the discussion is. We don't need to come up with another list of diseases. You need to have studies that have impact so that you can make your case either in court or to the public court, you know. You need compensation for these diseases. We have evidence, you know, scientific evidence for this.

MS. DYER: Then over lunch you need to think specifically what those are that we need to do

because we don't know.

DR. BOVE: Okay. We can keep the discussion going, yes.

MR. STALLARD: We will keep the momentum going after a credible lunch.

MS. BRIDGES: Can I say something?

MR. STALLARD: Can you say something other than bon appetit?

MS. BRIDGES: What can we do to help the -- all the genes that they have now? You've got all these statistics and trials and things that you've already done. Are there any groups that are looking into helping those people? I mean, all these studies that you've done got a lot for statistics for scientists, but has anything been done to help these people?

MR. STALLARD: So think about this over lunch, are there any gene therapy treatments that you're aware of that would be a clinical intervention? Thank you. Please come back at 1:15. We will eat on time and start on time.

(Whereupon, a lunch break was taken from 12:00 p.m. to 1:15 p.m.)

CONTINUE DISCUSSION

MR. STALLARD: Okay. Welcome back, folks. We're ready to resume now. It is 1:15. The court reporter

is speaking into his device. We left prior to lunch with the question posed by Sandra about if anyone knew of any emerging gene therapy-type interventions. So if you do, tell Sandra, but it appears that the group that that might be beyond their purview at this point. They don't know, okay? So if anybody knows of any medical treatments available for people exposed please feel free to share that information with the group.

MS. BRIDGES: Because everybody wants to know.

MR. STALLARD: Right, with the group.

MS. DYER: What was that -- there was actually -- we were in Arizona there's a group out in California that is working with that. So I will try to get the information to her.

MR. STALLARD: To everyone?

MS. DYER: Uh-huh.

MR. STALLARD: Good.

MS. BRIDGES: Put it on your website.

MS. DYER: Okay.

MR. STALLARD: Okay. So we are back at picking up the momentum. I think Frank was finishing off just before lunch and we were talking about the process that is going to be required and getting a better understanding of some of the time constraints

involved in these, starting with the feasibility assessment, the data sets that we're going to be looking at, how that will inform then the cadre or cohort or whatever we're going to call it, right. And then we left that conversation about what about other diseases and Frank had implored Chris and Richard for any type of suggestions or guidance on how to go about that. The difficulties in looking at -- or did you address that just prior to the break?

MR. ENSMINGER: Do we know if we got Tom?

MR. STALLARD: Do we have Tom? Tom, are you with us?

MR. TOWNSEND (by telephone): (no response)

MS. BRIDGES: I hate that because he's missing and he knows he's missing. He wants to be on there.

MR. STALLARD: Perri, can you try the connector again?

MR. ENSMINGER: I have to know what I have to fill him in on.

MR. STALLARD: All right. But, in the meantime ...

DR. BOVE: I think we've beaten it to death, the cancer and mortality. And one area where there's still confusion on my part is other -- how to do other illnesses that we don't have disease registries for. So that's one issue.

Another issue Chris and I were talking -- and

Dick were talking just a few minutes ago. Dick mentioned a registry and was talking about the housing records, okay. And, okay, so the housing records are the sponsors of people, right. So that's that group, but there's other people that -- other cohorts that have been raised and they're going to be harder. So that's another area where I'm going to have difficulty trying to figure out how to do it. We could discuss it or whatever.

So the cohort, the registry, whatever will be active duty and have family housing. That's what that database is. There's also active duty who did not live in family housing. That's the personnel data. Employees at base, the data I have -- the layout I have on that from DMDC tells me that the employee name was not included in the records of December 1981, but the files go back to '72. All files have Social Security number, date of birth. So you have some information, but we don't have the name. That's what the employee database looks like and it goes back to '72.

MR. ENSMINGER: But you got names from '81?

DR. BOVE: Names go on as of -- names are not on until December '81.

MR. ENSMINGER: But we've got from '81 to '85?

DR. BOVE: Yeah. So that's --
MR. ENSMINGER: So that's a cohort?
DR. BOVE: I didn't say we couldn't do anything. All I'm saying is this is what they have.
MR. ENSMINGER: I'm not jumping you.
MS. DYER: Just make a decision.
DR. BOVE: All right. The last group are family members, okay; children, spouses, so on. That, again, I'm not sure whether there's any computerizing on that. So those are things -- we don't have to discuss all this today. These are just things that we need to think about. We all need to think about to figure whether we can do something, if so what, or whether we feel that maybe it's too difficult to do something.
MR. ENSMINGER: Well, another thing we need to remember on the civilian employees, were the civilian women who were of child bearing years. They were never covered in the in utero study.
DR. BOVE: Unless they gave birth.
MR. ENSMINGER: No, civilian employees were --
DR. RENNIX: Because we would know where they gave birth.
MR. ENSMINGER: Well, more than likely Onslow Memorial.

DR. RENNIX: But that wasn't the -- the purpose was to get a big enough cohort and that's why they went after the active duty sponsor. There's a smaller group now that we have a database --

MR. ENSMINGER: Yeah, you're right. I'm sorry. This for scientific purposes, the in utero study will show or not show, whatever the case may be, a connection.

DR. BOVE: And we're going to reanalyze -- as soon as we have Morris' data, we'll reanalyze the other study too. That can be done without asking for any money.

DR. RENNIX: That's the Sonnenfeld study?

DR. BOVE: Yeah.

DR. RENNIX: Okay.

DR. BOVE: So that will happen.

MS. DYER: What about school records? Have you checked with the superintendent's office on base to see how far back they go with school records?

DR. BOVE: No, I haven't.

MS. DYER: Okay. Then that's a possibility. And you were saying about the civilians not having them until '72 -- where they lived on base until '72; is that what you just said?

DR. RENNIX: No, no, no. That we have their personnel file electronically was not until -- didn't start until '72.

MS. DYER: Oh, but there are records that go back further?

DR. RENNIX: We don't know. We don't know. From the DMDC data source we can look at each of the data sets that they have available and they have start dates for each one of those. And so there's a civilian personnel data file that we can look at and it gives you the limitations for each of those. That's the DMDC bible; every data base that they have.

DR. BOVE: But anyway, as for civilian employees, as I said, we have data going back to '72, the names only to December of '81, and family members, school records at a base is one source that we'll need to find out. And other than that --

MS. BRIDGES: Are you able to go into the census, state census, the county census? Like we're not able to go in past 1930, the public, but can you go in after that? Will they let you access those records? That would give you the full name, birthdates.

DR. RENNIX: That's every ten years. It's ten years.

MS. BRIDGES: It's what?

DR. RENNIX: It's every ten years.

MS. BRIDGES: Right.

DR. RENNIX: Well, there's -- people come and go quite a bit in that ten-year period.

MS. BRIDGES: But you'll be able to find them. You'd be able to find them with their Social Security number and you'd get their full name, where they were from, sisters and brothers.

DR. BOVE: You mean that snapshot when they did the census, say, every ten years. You'd know those people, but not the people in between.

MS. BRIDGES: You'd know who was born in 1980 at the base.

MR. ENSMINGER: We already got that.

MS. BRIDGES: You'd know their parents, where they were from, who they married, their children's names; if you were able to access those records.

MR. ENSMINGER: What records?

MS. BRIDGES: The state census records.

MR. ENSMINGER: Yeah, but all it's going to show is if they were a service member stationed at Camp Lejeune, all that would show is that -- well, I don't even think they take census at bases.

MR. MARTIN: I don't think they do on base.

MR. STALLARD: So that's a question of census bureau info.

DR. BOVE: Yeah, I don't know anything about that.

MR. ENSMINGER: I never took a census when I was on active duty. I was there for 25 years.

MS. BRIDGES: For the outside. I'm not talking about on base, on the outside.

MS. McCALL: Civilian census?

MS. BRIDGES: Civilian census, uh-huh.

MR. ENSMINGER: Who you trying to find?

MS. BRIDGES: Anybody that --

MS. DYER: I will tell you this, though, Frank, the Lejeune alumni reunion, they go to the forties and contact people.

DR. BOVE: Who's this?

MS. DYER: Lejeune High School reunion. They go back to the forties because we've got members --

DR. BOVE: Well, then they must have records.

MS. DYER: That's right. That's what I'm telling you. So you've got a real good resource right there. And I can get you in touch with people you need to get in touch with about that.

DR. BOVE: Okay. Do that.

MS. DYER: Okay.

DR. BOVE: E-mail me.

MS. DYER: I don't want to write you. I'll call you.

DR. BOVE: All right. Whatever. Is it good reading?

DR. CLAPP: It's fascinating. It's amazing how much stuff they have.

DR. BOVE: Well, except a lot of it doesn't start

until ’85, ’90.

DR. RENNIX: Well, you’ve got to remember the military did not use computers for personnel records until probably late ’70s, early ’80s, as a rule. But everything was done in paper.

MR. MARTIN: What do the National Archives list? I mean, I know you can get payroll records for Civil War veterans. If you’ve got a name or a unit number you can get a confederate or union soldier.

DR. RENNIX: Each -- National Archives has branch offices that have -- I’m sorry, I keep forgetting this. National Archives have branch offices that are charged with archiving certain records. So you’d have to go to the National Archives and look to see where records that were from Camp Lejeune, that are not associated with personnel, where they were archived, okay. So maybe all Civil War records are kept in two archives. So it makes it easy for them to search when that search comes in. So they farm that out. Anything that has to do with pay or medical or your service record, that’s kept in one of two locations, and that’s the VA or the National Personnel Center.

MS. BRIDGES: Ancestor.com has it. It has the First World War for guys when they filled out their --

DR. RENNIX: Right. If you want to pay about $35 per person, you could have a search done on a Social Security number.

MS. BRIDGES: No. I mean when they go into the service --

DR. RENNIX: I know, but it has to be Social Security number. We have to know their Social to go look anywhere. So we're stuck with not having --

MS. BRIDGES: At ancestor.com, anybody that dies, Death Master Index has their name and their Social Security number, the date they died. I'm telling you. I know what I'm talking about. I've done it all the time. I do all the time. It's my hobby.

MR. STALLARD: Ancestor.com?

MS. BRIDGES: Right. Ancestry.com.

MS. DYER: And if they died their Social Security number is on there?

MS. BRIDGES: Well, it's not right there on that. Then you go down and you put the information that you get off the Master Death Index down below, and it will pop up their Social Security number.

MR. ENSMINGER: On the Internet?

MS. BRIDGES: On the Internet. Ancestry.com.

MR. ENSMINGER: That's dangerous.

MS. BRIDGES: My mother was adopted.

MR. BYRON: It also gives your history of your family and everything.

MS. BRIDGES: It will give your sisters and brothers. It will even give neighbors. You can find that off of the old census. But they don't give -- they don't let you have access to anything after 1930 because it's a privacy law or whatever; not after 1930. But you being here, maybe you could. They'd let you have access to it, I'm sure. The government would let you have access.

MR. STALLARD: All right. So we have that as a potential resource to look at, the Census Bureau info. And you're suggesting, Sandra, that the ancestry.com, although it's a commercial bank charge, might be a potential resource to track living and deceased?

MS. BRIDGES: Yes.

MR. STALLARD: Because it's linked to the Death --

MS. BRIDGES: I have a friend that -- my mother was adopted and I found her people. And just last week I went really -- I tried to do it for Christmas and I couldn't do it for a friend of mine I've known for 30 years, so it's grouped together. She was adopted and her parents had told her -- her adoptive parents had told her that her mother's name was Lydia Cooper.

And this woman was born -- my friend, Fran -- was born in 1939. So I had to the year, 1939 and I had her mother's name of Lydia Cooper. You know how many Lydia Coopers there were in eastern United States or through the United States, not knowing her birth date? But I found it just by knocking them down.

MR. STALLARD: So it's a potential resource --

MS. BRIDGES: But I found it and she found she had a sister; that was the day after Easter.

MR. STALLARD: Wow.

MS. BRIDGES: And she's already talked to her.

MR. STALLARD: So when this information comes from housing and they're looking at how to track people down, we've identified several different potential resources including this one.

MS. BRIDGES: It doesn't cost anything. Well, it does. It's $29 or I don't even remember what it was now that I paid. I don't know what it was. It was so many months ago.

MR. STALLARD: Who knows? Maybe we can negotiate.

MS. BRIDGES: Yeah.

MR. ENSMINGER: The DOD uses LexisNexis.

DR. BOVE: Yeah, that's what we used to track the 12,000.

MR. STALLARD: You already used LexisNexis, right?

MS. BRIDGES: It gives you a Zip Code.
DR. BOVE: We used LexisNexis to find -- we had birth certificates to find the current address of the parents for the survey.
MR. STALLARD: Okay. So this was kind of spontaneous identifying potential resources. How does this relate to --
MS. BRIDGES: I found my uncle when he was in the First World War. And I found how many Hogues enlisted and all the Hogue boys must have gone down at the same time and enlisted, because there was William and John and Frank and all of them. They all went at the same time, and it's right there. It tells who they're married to, if they support anyone, what township, their age, color of hair.
MR. STALLARD: I'm afraid to look, but thank you very much for suggesting that. That's an out-of-the-box kind of solution that we can consider.
MS. DYER: Do we want to talk about the registry and exactly what would go on it?
MR. STALLARD: I think we want to talk about whatever you want to talk about, but I'd like to bring to your attention that we specifically identified three topic areas. We have another half-an-hour before Morris comes. We have already covered the

issue of scientifically credible studies.

Do you agree, Frank, that we've talked about the process for that and the integrity of the need for the data and all of that? Has that been addressed? Do you all feel that --

MS. McCALL: I do.

MR. STALLARD: Okay. With the endpoints of mortality, cancer incidence, and other. We talked populations just now and how that data will relate. I'm not talking into the microphone, are you catching me?

COURT REPORTER: (Court reporter nods head.)

MR. STALLARD: So now we're to what Terry would like to look into, one topic, the issue, if I'm not mistaken, the notification slash prevalence surveys, which what would that be comprised of? What was it, registry or something, right?

MS. DYER: Uh-huh. He didn't want to call it one, but we'll make up a name for it.

MR. STALLARD: Make up a name.

MR. ENSMINGER: Cohort.

MS. McCALL: The ATSD --

MR. ENSMINGER: Big list.

MS. McCALL: -- L.

MS. DYER: Yeah, the ATSDL.

MS. McCALL: List.

MS. DYER: List.

MR. MARTIN: The list. Are you on the list?

MS. McCALL: You know I am.

MS. DYER: We're all tired. You need to wake us up. Do y'all have coffee or something?

MR. STALLARD: We can all stand up and do Simon Says.

MS. DYER: We are dragging.

MR. STALLARD: I know. Wait until Morris comes in, then you can sleep.

MS. DYER: Okay.

MS. McCALL: Bring him on now.

DR. CLAPP: Morris is here.

MR. STALLARD: Yes.

DR. CLAPP: He's been waiting a while.

MR. STALLARD: Oh, really?

DR. CLAPP: And we can change the order and have him come ^ notification and prevalence based on where people lived.

MR. STALLARD: Morris is here. Well, come on up. Is that all right with everyone?

MS. DYER: It's fine.

DR. BOVE: Maybe Morris can get us going.

MS. RUCKART: Morris, where is your presentation hand out?

MR. MASLIA: Oh.

MS. RUCKART: I'll get it.

DR. MASLIA: Just let me know when to start.

MR. STALLARD: Right now.

UPDATE ON WATER MODELING

MR. MORRIS MASLIA

MR. MASLIA: Okay. Good afternoon and I'd like to thank the CAP for inviting me to give an update and a status report on the ATSDR water modeling done in support of the current health study at Camp Lejeune.

And what I'd like to do, my presentation is about 15 minutes. So if I could go through the entire presentation and then we'll open it up to questions. I think that's the -- Mr. Facilitator's job.

MR. STALLARD: No. If that's what you want, that's what it will be, right?

MR. MASLIA: That will be my preference.

MR. STALLARD: Okay.

MR. MASLIA: Okay. Just as a reminder, the findings and some of the results I'm presenting today have not gone through an external peer review, and they have not been formally cleared by the Agency. And as such, we view them as preliminary, and they are subject to change pending those two actions, external

peer review and formal Agency clearance.

We had three goals with respect to the water modeling activities in support of the current health study. The first was to determine the arrival time of contaminants at water-supply wells, as well as to reconstruct the particle concentrations of PCE or other chemicals depending which area we were doing at the wells. And to accomplish this we're using groundwater flow and contaminant and disperse of transport models.

The next goal was to determine the concentration of water being distributed from the water-treatment plants, the treated water. And to accomplish this we're using a combination of simplified mixing models as well as complex water-distribution system models.

And finally, we need to determine the reliability of modeling results. As with any type of analysis where we have limited data or nonexistent data, we're looking at different exposure scenarios, we really need to provide the epidemiologists what our constant is in the modeling results. We're accomplishing the third task through the use of sensitivity analysis and Monte Carlo simulation.

The groundwater flow modeling areas, the first

area is the blue rectangle is the Tarawa Terrace area, the Holcomb Boulevard area, and the Hadnot Point area. I want you to notice that the generalized areas, obviously, are a lot larger than the actual area that we're studying. And that's because of numerical requirements of groundwater models. The Tarawa Terrace area, since it's basically nearly complete, more closely approximates the modeling domain. The other two, Holcomb Boulevard and Hadnot Point, since we're currently working on those and developing those models, should be considered as generalized modeling areas.

We also have three water distribution system modeling areas. We have a Tarawa Terrace area -- I don't have a laser pointer, but I'm sure everyone is familiar with it, which is in the northern part area, the central area, Holcomb Boulevard and then the southern area, Hadnot Point area, which includes French's Creek.

For present day conditions, there are two water treatment plants and that is the Holcomb Boulevard or building 670, which supplies treated water to the Holcomb Boulevard and the Tarawa Terrace Camp Johnson area. And then there's a treatment plant building 20, which is the Hadnot Point, it supplies Hadnot

Point including the French's Creek area.

During the time frame of the epi study we had three water treatment plants that we're interested in. It was a Tarawa Terrace water-treatment plant that provided treated water to Tarawa Terrace and the Camp Knox trailer park and the Camp Johnson area and Munford Point areas. Then in 1972, about June, our best efforts to obtain information Holcomb Boulevard came online and of course, the oldest water-treatment plant serving the entire area was Hadnot Point. For purposes of the epidemiologic study, we're considering unexposed areas -- I mean exposed areas, exposed as Tarawa Terrace and Hadnot Point, and unexposed being Holcomb Boulevard area.

In order to limit the number of slides, and so we can allow more time for questions, I'm just going to use these abbreviations to give you the status of the modeling that we've done. I believe you can read them on the handout provided you. I'll start with Tarawa Terrace; the status of those models. The groundwater flow model is calibrated. The flow and dispersive transport model is calibrated. The water-distribution mixing model is calibrated. The water-distribution hydraulic, the water-quality model is calibrated. The sensitivity analyses are

completed. And the uncertainty analyses using Monte Carlo simulations are currently ongoing.

With respect to Holcomb Boulevard and Hadnot Point, the groundwater flow model is under construction, that is we're looking at exactly where to put model boundaries based on the geo-hydrologic framework and data that we're looking at. And so the risk of the models having to do with groundwater flow are dependant, of course, on the calibrated groundwater flow model. So we have not developed those as of yet. We do have a calibrated for each of these two areas a calibrated hydraulic and water-quality water-distribution system models.

At this point what I would like to do is go over some preliminary results from model simulations for the Tarawa Terrace areas. This graph shows a number of things here, and I'll go over it. The top or gray line shows the simulated and historically reconstructed PCE concentrations for Tarawa Terrace well TT-26, from the start of pumping through about the middle of 1980s.

The blue line shows the water being delivered from the water-treatment plant. It's important to understand that in computing the exposed water or water that was delivered to the population, that we

use other wells besides TT-26. It takes all the wells, that's the mixing model. However, for simplicity of just presenting a slide and PowerPoint and since the prime moving well as far as contamination is well TT-26, I'm just showing this -- the only groundwater well is TT-26, but there are other wells that are used in coming up with this bottom graph right here. Also, what I want you to notice is that this red-dash line at five parts per billion is the MCL. This is just the standard that's currently set for PCE; so just as a reference point here.

So what that gives us then is we can determine an arrival time. At TT-26, PCE at five parts per billion arrived in June 1957. Again, these are all based on the calibrated model. In February '58, having mixed with other wells, the water delivered from the TT water-treatment plant reached a concentration of PCE of five parts per billion. Okay. By the time of the start of the epi study, and that's this shaded area right in here, this rectangular-shaded area, is the time frame of the epi study, January '68 through December of '85. From our modeling results we see that the PCE concentration in TT-26 was about 270 parts per billion and in

delivered water about 40 parts per billion.

And I need to get you to understand that the historically reconstructed concentrations, both in TT-26 as well as the exposure model, are average values. Those are average monthly values. They could represent any typical day within a month time frame. That's the resolution of our models.

And the final thing I want to point out is where we do have observed data, this is observed coming out of the water treatment plant right here, these red dots, that's actually measured data. You can see the very good agreement with our mixing model. And also, one other point to note when TT-26 shuts down, that's the stats here, the concentration and the exposure, of course, goes immediately down downward. Again, these results are considered preliminary.

So let me just go over now from a verbal standpoint our summary of the results. PCE at five parts per billion arrives at well TT-26 in June 1957. By February of '58 the mixed water coming out of the treated water plant at Tarawa Terrace reaches a concentration of five parts per billion. From '68 through '85, which is the time frame of the current health study, TT-26 has a mean value of 409 parts per

billion and a maximum of 831 parts per billion. I mentioned TT-23 here because, of course, it was turned on for a short period and our modeling analyses from August ’84 through April ’85, based on the data that we had, TT-23 has a mean of 61 parts per billion and a maximum of 77 parts per billion. And the concentration coming out of the treated water plant or that water which people would have been exposed to has a mean of 66 parts per billion and a maximum of 177 parts per billion. Again, these are average values, average monthly values.

The question that should come up now as I said in the beginning is what is our confidence in these numbers? Is there a huge range plus or minus the order of magnitude, which is not unusual for measuring concentration value or are we better than that? And so we did some initial sensitivity analyses and one thing that we found out is that the pumping schedule is the main parameter that affects the movement or the transport of the PCE in the Tarawa Terrace area. So another way of saying what is our confidence we like to know what the variation in arrival times are. You know, is it plus or minus ten years, plus or minus five years, or what is that number?

So to do this we need to look at the variation on what we term on-and-off cycling, when the wells go on and when they go off and what is that pumping schedule. Now, I'm going to look right now at TT-26; however, again, we've looked at all of the wells that are there. Let me just preface this by saying as complicated as the modeling that we've done prior to this sensitivity analysis or parameter estimation analysis is, this particular aspect is not a trivial solution. There's not an off-shelf model to do this. We had to come up with a novel approach to come up with this answer. And the reason being is that not only do we have to cycle on and off and basically look at an infinite number of on/off pumping cycling schedule, but then we also have to look at how that affects the movement, the fate and transport of PCE, still maintaining our calibrated model.

And for rather than showing a whole series of graphs, I'm going to summarize the results here, and that's on the next slide. And again, the way I'm going to phrase these or put these is in terms of the arrival of the five parts per billion concentration. Arrival at well TT-26 could be as early as February 1957 or as late as August of 1958. What's interesting to see if we were dealing with reality,

you'll notice our calibrated value is in between these two dates. So that gave us, you know, I won't say a sigh of relief, but it gave us some confidence in our calibrated model that it did fall in between these two dates. Again, the calibrated model being done totally independently to these two estimates.

If we look at the delivered water from the Tarawa Terrace water treatment plant, the five parts per billion or the exposed concentration could have occurred as early as December '57 or as late as April of '59. And again, our calibrated mixing model shows February '58; again, falling within those ranges.

So now to address what is our confidence in our values, that is basically the variation in arrival times, let's look at the current health study, which goes from '68 to '85. When we look at the data for in 1968 what we see is there's less than a one percent difference in any of the arrival times. What that tells us is a couple of things. Number one, it tells that basically we are 99-point plus or minus percent confident in our results, in our calibrated model. It's that unique of a calibration. But it's also an indication that even though we did not have specific documentation on on/off cycling, the day or the hour when they cycled wells on and off, there's

apparently a very narrow operating range. You could not operate this system over a very wide range of on/off cycles. It had to be a very narrow operating range. And so what we feel is that the calibrated operational schedule, the calibrated model, is probably the most likely most representative schedule of average operating conditions during this time frame of the heath study.

So what reports are we planning to describe the Tarawa Terrace activities? I've listed them here. Obviously, these are all the components that have gone in into developing the calibrated model sensitivity analyses. I won't read them all off here, but I do want to concentrate on the summary of findings. And the summary of findings is intended to provide a very concise technical summary or concise summary from a technical standpoint, to stand up to scientific scrutiny, but it also contains verbiage that can be understood by the general public. Also, these are similar to those who are familiar with our work that we did in Tom's River; we had about a 30-page summary of findings report. It will be like that. It will also have a question-and-answer section in the back. And then the other documents will be the detailed supporting -- and technical

supporting documents.

And so the process now for releasing reports are as follows: We'll draft a report. We're obviously working on a number of reports currently of the Tarawa Terrace area. They all have to go through external peer review, each report. The reports are then -- once we get the external reviews back, depending on what they say or what the reviews say, maybe to make some modifications or adjustments, depending on what the reviews say or answer a few comments, we will then send out -- and they all have to be cleared by the Agency -- then prepared for printing and prepared for web access, then the reports are released to the public.

All modeling reports, with exception of the summary findings, will contain the calibrated model input data sets, the output files, the public domain model codes that we've used, and any and all data and supporting documentations that we have used to develop the simulations as well as the modeling reports.

And I just want to thank you for the opportunity to give you an update on our water modeling activities, and I'll be happy to answer any questions that I can at this point.

MR. BYRON: Thank you, Morris. On page five, for the simulated PCE concentration.

MR. MASLIA: On the graph?

MR. BYRON: Yes, sir.

MR. MASLIA: Let me get that.

MR. BYRON: The two lines are both simulated models, right?

MR. MASLIA: That's correct.

MR. BYRON: And then the red measured the water treatment; is that from Granger Laboratories?

MR. MASLIA: It could be any number -- we've got them from what's referred to as JTC reports, and JTC reports there's a whole slew in the '80s of where they went and obtained water samples.

MR. BYRON: So JCC?

MR. MASLIA: JTC. J like in John, T like in Tom, C like in cat. And the Granger reports typically were groundwater data or groundwater wells and we have to use the JTC reports in assessing the calibration of the groundwater modeling report, and that may, data will in fact be presented in the groundwater modeling report. We were comparing our simulated versus measured data.

What these are were -- and some people refer to them as tap samples. Some were taken at tap, some

were taken, for example, at pump outlets after the treated water tank in Tarawa Terrace, and it's the only data that we have found in searching all -- But that's why they're on the exposed line and not on the groundwater simulated line, okay, because that is treated water samples.

MR. BYRON: Okay. But from what I could deduce from this is that you've actually been able to simulate the results that were actually measured?

MR. MASLIA: Yes. That is correct.

MR. BYRON: Thank you.

MR. MASLIA: Or that is a check on the calibration of the mixing model. We have -- unlike a lot of studies, we have been very rigorous in our calibration effort. We've actually got four levels of calibration, the mixing model being the final calibration to try to ensure the most unique calibration for the models.

MR. ENSMINGER: You said you took into consideration the pumping schedule for these wells?

MR. MASLIA: Let me qualify that if I could, because that is an important point. In the later '80s, we had some information on pumping schedules. We did not have -- these wells, basically, can be operated, turned on and off, on an hourly basis. That data was

very limited or non-existing.

What we did have in the middle ‘80s, the U.S. Geological Survey conducted some studies on behalf of the Navy, and there’s some published reports. And they’ve got some monthly totals. Where we have monthly totals then we used those. We do not have per se the hourly operating, from hour to hour on/off, cycling schedules. But what we had to maintain and be honest to was the total volume of water. So in other words, if I’m running my model and I’m not matching on some parameter and I say okay, let’s turn on well XYZ for 20 hours and I’m getting a million more gallons, I can’t use that, okay, even though I may match some observed water level at some point because that’s not honoring the volume of water that went through the plant. And that’s why I said you should consider these results as average monthly because that’s the finest resolution we had based on some of that 1980 data where we had monthly volume totals for the pumping.

MR. ENSMINGER: But TT-26 was the highest producing well at Tarawa Terrace, correct?

MR. MASLIA: That’s correct.

MS. McCALL: And I see that you’ve put in the Knox trailer park and Camp Johnson when you talk about TT,

does that include them as part of the water distribution -- getting the same amount of water from the same well that TT?

MR. MASLIA: It includes all supply wells that provided water that ran through the TT water treatment plant. In other words, there were two wells that are actually outside the model domain, wells six and seven that pump in the middle 1950s through the early 1960s. Those aren't included in the exposure model, okay. They're not included in the groundwater model because they did not come from the same aquifer or the same groundwater regime. But in water supply, again, we've got, you know, different components. You've got the groundwater model, then we've got the water treatment plant. So if they're supplying water to the water treatment plant, you have to take that into account in the equation of the mixing models. So those are included in there.

MR. ENSMINGER: These JTC results you're referring to, what are those?

MR. MASLIA: Those are lab -- analytical lab reports that went to -- JTC is the name of a lab. And that is information provided to us by the Marine Corps.

MR. ENSMINGER: Really?

MR. MASLIA: And they did a series of analyses on water quality samples, a water quality sampling.
MR. ENSMINGER: JTC?
MR. MASLIA: Yes.
MR. ENSMINGER: Know who to ask for.
MR. MARTIN: I've got a question regarding the Holcomb Boulevard area. You've got that shown as unexposed, which also encompasses Midway Park.
MR. MASLIA: Right.
MR. MARTIN: Now, prior to 1972 wasn't Midway Park provided with water from the Hadnot Point distribution area?
MR. MASLIA: Yes.
MR. MARTIN: Will that be considered going --
MR. MASLIA: Exposed and unexposed will change somewhat depending on which water treatment plants were online or not online, and that slide, again, was meant as a generalized-type statement. It was not meant to be a temporal or time sensitive type of an analysis. So again, I caution you those are generalized. I may specifically for generalized modeling areas and generalized categorization. Obviously, as you've seen by this chart right here we reconstruct month by month. And so as things change, we obviously change them in the model. Our

interpretation changes in terms of exposed versus unexposed.

MR. MARTIN: Okay. Thank you.

MR. STALLARD: Any other questions for Morris?

DR. CLAPP: Morris, can you envision a way of using this finally where a person could put in on a website their address for a particular time for say a particular month and that would query this database and tell them what their average concentration of TCE was where they lived?

MR. MASLIA: If your question is can that be done, the answer is yes, it can be done. The actual logistics of how it will be done and exactly what information will be derived by the person querying, I think that’s probably up to Frank and DHS as the lead, but it can be done. Again, all our data, whether it’s input, and I’m talking about the calibrated models, input data sets as well as output are spatially sensitive. Do we know exactly the long of every one of the 24,000 cells, the centroids of the cells and the cells are only 50 feet by 50 feet. So the answer is yes.

MR. ENSMINGER: Well, in the case of Tarawa Terrace there was only one water treatment plant. So in essence everybody would end up getting the same

amount of contamination, right or wrong?

MR. MASLIA: That is correct.

DR. CLAPP: For given point in time. It will change over a point in time.

MR. MASLIA: That's the assumption and that is one of the assumptions brought out by our expert water modeling panel as to why we could make use of a less complicated or a simplified mixing model, okay. But again, we do have the more sophisticated hydraulic water-quality model, which goes pipe by pipe and hydrant by hydrant, which again, was capped and calibrated.

MS. DYER: So now we've seen this and you're saying that that's something you would like to see done?

MR. MASLIA: Yeah.

MS. DYER: So, Chris, you want to write that there? That's something, Frank, that you can go ahead -- can you go ahead and start working on that?

DR. BOVE: I was hoping that you were actually going to work on this.

MR. MASLIA: Again, I caution you that there's probably at least a six-month clearance process probably.

MS. DYER: Is that clearance process or it will be six months before it's done?

MR. MASLIA: We cannot release it without it being cleared.

DR. BOVE: Yeah, we'll work that out.

MS. DYER: Okay.

DR. BOVE: But the issue to me is more of do we have the expertise in-house to establish a website with this kind of clearing possibility, and I think we do.

MR. MASLIA: We do because we've got the grants for whatever. So the technology is there.

MS. DYER: Okay.

DR. BOVE: So yeah, we've been talking about doing it. So we just have to identify the people who can do it. I don't have to.

MR. STALLARD: Just so I'm clear that I have --

MS. DYER: To this level, when will all the areas by done?

MR. STALLARD: Excuse me. That question is when will all the --

MS. DYER: Areas be done for this level, yes.

MR. MASLIA: At this level? Right now our goal is -- let me tell you what our goal is to have calibrated groundwater flow model for Holcomb Boulevard and Hadnot Point by the end of September of 2006. And after that we develop the fate and transport models and the same process is here. It goes a little bit

faster in terms of putting the models together because now we do have all the information and data in our database. We know where to go look for that. Obviously, it's in our possession, but I mean what documents to search, what's some of the meanings when they're describing certain data and certain types of sampling and what that really means. So that goes much faster than it did for the Tarawa Terrace area.

However, we have other things that make it more difficult than Tarawa Terrace. There's not a single source of contamination at Hadnot Point. There were multiple, multiple sources of contamination and multiple contaminants, and that makes it a little bit more difficult. So I would say, again, I think we can meet the goal of getting it a calibrated groundwater flow model by the end of September of 2006 for both Hadnot Point and Holcomb Boulevard. Further than that, which is around six months or so I'm really not going to speculate at this point.

MR. STALLARD: Morris, let me ask there are three different studies, basically, right, going on?

MR. MASLIA: Three different modeling areas.

MR. STALLARD: And so your report, then clearance and all that will be after all three are done?

MR. MASLIA: No.

MR. STALLARD: So once you get done with Tarawa Terrace will go into the clearance process and all that?

MR. MASLIA: There are several reports that have been drafted and actually are right now in external colleague review for Tarawa Terrace, and so that is progressing. Basically, at the end of April we expect to get the external colleague reviews back and then hopefully go into Agency clearance. These reports, I'll remind you, are not small. There's a lot and the more you have of limited data and the assumptions that we're making on modeling, the longer it takes even an expert to review. I mean, our main goal is to make sure all our assumptions are understood. They stand up, not just to this review, but to the test of the scientific time. And so that's why we go through this -- if you want to call it double process of external peer review as well as Agency clearance. But those are the only reports currently Tarawa Terrace for preparation.

DR. FISHER: Thank you. I really enjoyed the presentation. A couple of questions. You mentioned Monte Carlo analysis for sensitivity, do you have a sense now what the bounds are on those mean simulations?

MR. MASLIA: Actually, the Monte Carlo -- We did a separate sensitivity analysis. Let me explain sort of what the difference is for those who may not be quite familiar with it. The sensitivity analysis, basically as you find out a parameter ^ or it could be the hydraulic ^ of the aqua material and I want to see how it affects the calibration by changing it, plus or minus, or the magnitude plus or minus ten or twenty percent. I do that and there's some sophisticated products to do that, and that is complete. And basically what it showed is water modeling panel asked us what happened if the grid instead of being 50 feet on a side, which is the groundwater itself or 100 feet on a side or 25 feet on a side? What we were able to demonstrate is that 50 feet was a very good point. It made no difference if you went smaller. If we went smaller, we would have been modeling forever because it'd be four times the modeling effort. If we went to 100 feet, it smears out the results.

So 50 feet was the judicious choice. It incorporates some of the actual properties, some of the transport properties. So we tested things like that. The pumping, obviously, turned out to be a much more sensitive parameter, and that's why we went

to an external -- we went to some genetic algorithm-type analyses.

The Monte Carlo simulation basically says that the aqua parameters are random. They're randomly occurring, like a normal distribution. So for example, hydraulic conductivity may be lognormally distributed. The bounds on that are the bounds either found in the literature for this type of aquifer or the bounds that were measured on the site. And so we have that and what we're basically waiting on are faster computers. It takes us right now for one parameter to do 200 realizations -- we actually need to do between 1,000 and 10,000 -- about two weeks, okay. So we've been seeing the computational limit.

As I said before and the graph on the early and late arrival time, pretty much says it all. It was a very narrow operating range. And we believe the calibrated model present a realistic average condition for operating the water-supply well. What we've been asked to do and we're complying with it is from our water modeling expert panel they wanted an uncertainty analysis to see, basically, what effect if any and what range of an effect it'd be if we assumed the parameters have an uncertain nature or

variable nature, and that's what we're complying with at the present time. But the numbers we would provide to the health scientists doing the health study would be the calibrated values, not the numbers coming out of the Monte Carlo simulation. So I hope that answers your question.

DR. FISHER: Yeah. One other question, I guess you're going to do trichloroethylene also? Are you trying to address -- is this an issue where you have groundwater intrusion of vapors? Is that another source of exposure?

MR. MASLIA: Let me answer that in two parts. I'm not going to directly answer exposure from vapors, but back about two or three years ago AH consultant did an analysis on the vaporization of volatile organics from the water treatment plant and what they found out was that basically was less than about ten percent losing any concentration from the water treatment plant. So in terms of groundwater modeling or water distribution model, that's not an important consideration to -- now, I'm talking about human exposure to vapors, I'm talking about the volatilization process that is not and has been documented in a separate report.

We are -- and actually a corroborator of ours

is developing a pure three-dimensional multi-species multi-component volatile organic model for Tarawa Terrace and it will look at the degradation of PCE to TCE to DCE for Tarawa Terrace. And we get to Holcomb Boulevard and Hadnot Point obviously there are other compounds in there. In terms of groundwater modeling, that would reflect itself in the retardation factor. And TCE has a different retardation factor than PCE does, and that's how we're addressing that issue or will address that issue.

MR. STALLARD: Any other questions for Morris?

MR. BYRON: And Frank, that was a question I was tabling concerning the degradation of these chemicals from PCE to TCE. How is that -- I guess that PCE for Tarawa Terrace is a major category of concern, right? But then how do you know if you were being exposed to TCE at the same time and DCE? I mean, it was there for 40 years, or 30 anyway.

MR. MASLIA: Let me again address that. The multi-species multi-components degradation models -- we need to start the other way around. The models that I have shown you look at one constituent. You can think of it as a surrogate, okay. We use PCE. It's characteristic of PCE because of the retardation

factor and the mass-transport properties for PCE that we have in the fate and transport model. That's not a simple step ahead. You got one component that's considered three components. It doesn't work that way.

What you have to have is a specially developed model that looks at saturations, look at degradation products, volatilization coefficients that are being worked on as I speak by our cooperator at the Multi-Environmental Simulations Lab at Georgia Tech. And obviously, the two models should agree for PCE, but in fact we will be able to tell you what the PCE model and that very complex models what the concentration of in the groundwater of PCE, TCE, DCE, and any vinyl chloride at a certain location at a specific point in time reaching the wells or whatever.

So yes, we will be able and that's one of the reports, I don't know if you noticed it, but I forget which report number it is on there, but there is a report that will address that as well.

MR. ENSMINGER: You said you used those JTC Lab results.

MR. MASLIA: Yes.

MR. ENSMINGER: Did you also incorporate into that

the Granger Lab stuff and their findings?

MR. MASLIA: Yes. Let me explain that again. The JTC Lab reports were primarily on the treated water side, okay.

MR. ENSMINGER: Yeah, it was testing for TTHM.

MR. MASLIA: Right, but that was on the treated water side.

MR. ENSMINGER: Yeah.

MR. MASLIA: Okay. We can't use that as a groundwater model. The Granger Lab, on the other hand, were primarily water levels and concentrations on the groundwater side.

MR. ENSMINGER: You mean the JTC?

MR. MASLIA: No, the Granger Lab. They're two different analyses, okay. Let's start back. The Granger Lab reports took samples -- airline samples and some steel tape samples of water levels and some concentrations at wells. Those are not considered exposure quantities. Those are the concentrations of the contaminant in groundwater, okay. The JTC report went to quote, tap samples. Not literally a tap, but that's on the treated water side.

MR. ENSMINGER: In the 10 August 1982 letter to the commanding general at Camp Lejeune, Granger Labs was testing the water for TTHMs. That was finished

drinking water.

MR. MASLIA: They may have done both.

MR. ENSMINGER: Oh, okay.

MR. MASLIA: Remember the data that we have in the late ‘80s or JTC, they’re very few, but I’m saying that’s --

MR. ENSMINGER: Okay. I see what you’re saying.

MR. MASLIA: So we’ve used all the data at our disposal, and again, looking at it -- in fact, in the modeling report we’ve got a graph because for example the airline measurements are considered the lowest quality possible to get a water level measurement. And so we show you which measurements are airline versus which ones are steel tape or in monitored wells. It makes a big difference as to your confidence --

MR. ENSMINGER: Well, you lost me when you start talking about airlines because that’s --

MR. MASLIA: It matters from a standpoint of the quality at the calibration and how you can set your calibration standard. I may want to set it to plus or minus two feet. If I’m using airline measurements, I’m only getting plus or minus ten feet. I’m kidding everybody if I tell you my calibration is any better. So that type of data we

need to -- or the assessment that we have done, and not only saying we have data, but assessing the reliability of that.

MR. ENSMINGER: Okay.

MR. STALLARD: Any other questions for Morris?

MR. MARTIN: I'd just like to clarify on your graph, this is something that's been questioned several times over, it shows with TT-26 that it went offline July and August of 1980 and then appears to have come back online again until January of 1983.

MR. MASLIA: You're talking about out of service?

MR. MARTIN: Right.

MR. MASLIA: It was out of service for a couple of months from July to August 1980, and then out of service again from January to February of '83. Those are just like two-month periods that it was down for maintenance or for any reason, but it was not pumping.

MR. BYRON: What was the second date?

MR. MASLIA: The first date it was out of service from July through August of 1980.

MR. BYRON: Okay. Thank you.

MR. MARTIN: Okay. So other than those two-month periods it was pumping water for that five-year period?

MR. MASLIA: Yes, and in fact you can see that if you look real closely. Again, the reports will have much better graphics on it, but those three arrows point to gaps, okay. So when it says it's shutdown, we don't run it in the groundwater.

MR. MARTIN: All right.

MR. MASLIA: It's zero. The flow is zero from that well. And when flow from zero -- you can see this exposure model point also drops way down because TT-26 is not delivering any water to the water treatment plant.

And again, let me just caution you or remind you there are other wells that go into making the blue graph, not just TT-26. I just wanted to keep the chart simplified.

MR. MARTIN: Thank you.

MR. STALLARD: Any other questions for Morris?

DR. CLAPP: I'd like to thank Morris.

MS. DYER: Thank his kids for letting him come in today, too.

WRAP UP AND PLAN NEXT MEETING

CHRISTOPHER STALLARD

MR. STALLARD: Thank you. We have a few minutes before we are heading to the closing of this meeting, about 40 minutes. Can you? You may.

MS. DYER: I really want to direct the next part of what we do for a little while to both of you all. After seeing the water modeling, the years, the parts per billion, that part, what are your thoughts now? Where do we need to go from here?

DR. FISHER: Well, I ask a question about the Monte Carlo because out of that he showed a mean value, but there are really upper and lower bounds because you assume that there's distributions on the parameters and you sample them and you have a probabilistic presentation of the information. The mean is the common thing to do, but you may want to see a worst-case scenario, which might represent a 95th percentile on a frequency distribution. You have a mean simulated concentration which is rather high, but your group may want what's the worst case.

DR. BOVE: Well, also, when we look at the data and assign exposure, we'll be assigning exposure on a month-by-month basis. Now, if we want to know -- we look at the whole, say, twelve months of -- nine of pregnancy plus three months prior to conception. So a twelve-month period, let's say, and you have different values for each month, because, you know, whether it's pumping or not or how -- the contamination level does change a little bit, at

least, month by month. We could average over that entire period for the cancers anyway or we could also keep the maximum over that entire period. So we could also look at it that way, too.

So within every month, there's a mean lower bound, upper bound. So there's that, and then we're going this way over the twelve or nine-month period, whatever period we're looking at exposure, values are changing, too. You take the maximum or the mean of that, too. So there's variability going that way, too. So one way to do it is to look at it all those different ways in the study; in any study that we do.

DR. FISHER: But the numbers are high, pretty high.

DR. BOVE: The numbers are high no matter how you -- right.

MS. DYER: So we're looking at it, it's a bad situation?

DR. RENNIX: Yeah.

DR. BOVE: Yeah.

MS. DYER: And where do we need to go from here as far as y'all are concerned?

DR. CLAPP: Well, I think notifying people is next.

MS. DYER: Okay. So we're going to talk about the notification of the registry list?

DR. CLAPP: Notifying of the results of this water

model so people can find out what they were exposed to when they lived there, if they want to. And then if you do that on a ATSDR website, you might say on a website, if you have questions about what this might mean, call you or go to your website. And that's where you can get people to come forward with I looked at my results and here's what I have, and then you can collect information on your website that way. I'll help you with it. I can look at it. It's not a study, but it is a response, it's a service, it's a response to people's concerns about being notified or finding out what their levels were. I'd be happy to work with you on that.

The reason I brought this up was partly because I thought this was possible. It's being done now in Cape Cod, Massachusetts by a group called Silent Spring Institute, and so they have on their website -- it's not just water, actually, it's spraying of pesticides for gypsy moths and a number of other things, but it is a very useful public service. It's Silent Spring Institute, it's silentspring.org. It has it on their website and that might be a good model. I wasn't aware of the Hanford, Washington one, but I know this is the only one in Massachusetts that's about pesticide spraying, especially in Cape

Cod.

So that's being done now and they've staffed it and it's a nonprofit that does it and they do answer phone calls and requests for information. And I think it may be a next step. In addition to the fact that this model is going to inform all these studies that we're talking about. This is the basis for assigning who's highly exposed, who's medium exposed, who's less exposed for the mortality study and for the cancer incidence study. So this is a great step, I think.

MS. DYER: So this is the step we need to take? We need to get the ATSDR to put that on their website?

DR. CLAPP: I would say so.

MS. DYER: Okay. How are we going to do that and when is it going to be accomplished?

MS. McCALL: Chris is going to do it.

MR. STALLARD: Okay. I think what was raised here was is it possible to be done, to convert using Morris' water model to a useful publicly assessable website being proposed on the ATSDR website. What I heard was that we have to work out the logistics on how that is going to happen, correct, Frank?

DR. BOVE: Yeah. In other words, I don't know how to do it, but there are people in my Agency, I'm sure,

that know how to do it. If not, we could find a contractor who could do it for us. I don't think there's any question that we would do this. The only issue is how long it's going to take.

Morris, are you still there? Okay.

MR. MASLIA: Yeah, I'm still here.

DR. BOVE: My understanding of when the data would be ready to go on such a website would be the middle of next year; is that optimistic?

MR. MASLIA: That would be appropriate because I'm viewing the rest of the summer will be through Agency clearance and preparation of reports and stuff like that. And we do not want to put something on a website that is -- you know, we want everything consistent.

DR. BOVE: Right. So we will have -- I mean, for the study we'll have the data before that, but ready for the website we're talking probably the middle of next year. And then -- yeah, and then we could find someone to do the work.

MR. MASLIA: We have the people or the technology is in-house to do that. Again, in doing the reports and making them web accessible is not a matter of simply just running it through the HTML or XML software packages you can buy. It has to meet certain

standards. The government has certain complying standards that the reports have to --

MS. DYER: Does this have to be funded to be able to do this website? So the DOD needs to be approached about funding it? So it needs to be in the budget?

MR. MASLIA: I'm not the one to answer that.

MS. RUCKART: When we do the budget for that time period, you know, as we discussed we do it in year chunks, we would be aware that that was coming and factor that in.

MS. DYER: Okay. Now, I'd like to ask Dr. Clapp do you think that the time that they're saying it's going to take is appropriate?

DR. CLAPP: The time to put this up on the website?

MS. DYER: Yes.

DR. CLAPP: As far as I know, yes.

MS. DYER: Okay.

MR. MASLIA: If I could just explain and give you some sense of the volume of information that we have to put up, because it seems like, you know, you put up a map and one person clicks where they live or where the interest is and that single number comes up. That's the end result. However, to make it generalized so that anybody anywhere can do that we have to make all the model results of every single

cell, and for each layer of the model, and there's several layers, there's 24,000 cells, okay. We've already gone through and purchased a terabyte, a thousand gigabytes of additional storage, just to continue our work. You're not -- we're not dealing with a small amount of information. And so we need to do it in such a way that we're not overloading people with just raw data coming out of every time they go --

DR. BOVE: We'll talk about this, but I think that because we can assume that everybody in a housing complex got the same water on a given month that we can try to simplify it a little bit so we don't have to have that kind of complexity to answer the kinds of questions people will -- So we need to sit down and discuss this. I don't want have a discussion now. But I think there's -- what we need to put on the website is just what will answer the people's questions. We don't need to have all those cells on there, I don't think, but we'll talk about it to try to simplify it.

MS. McCALL: Well, when about six years ago when I first found out about the water I had gone to the CDC website, the atsdr.cdc.gov, and I was able to pull up superfund site and then target right in on the map of

Camp Lejeune. No -- well, just going directly to this website and so what I'm saying is I think you already have a head start on the technology because it's there, it's already there. I've been there. I've printed off maps years ago.

DR. BOVE: I don't know.

MS. McCALL: So I don't think what we're talking about is a monumental undertaking. I think it's just going to take -- I just can't see why it would take six months.

MR. STALLARD: Because -- Excuse me, I can address that. Because it can't be published until it gets through the peer-review process. I mean, that's the world of public health. The epidemics come and go, but it might not be published.

MS. DYER: I guess what we were asking is we know that the water modeling has to be completed, needs the peer review, but after it's all completed, time wise, how long is it going to take for them to get this on the web?

DR. RENNIX: Is it possible to prepare the site beforehand, knowing the parameters of the data, so that when it gets approved you can just plug it in?

MS. DYER: Thank you.

MR. STALLARD: Okay. We are now talking about next

steps and what we need to be doing. You've already identified that this is a high priority to take -- to start preparing for this to be loaded as soon as it's through clearance process and not start at that point in time.

MS. DYER: Right.

MR. STALLARD: That's the message, right?

MS. DYER: Right.

MS. McCALL: That is the message.

MR. STALLARD: So that's going to require some work between Frank and Morris and the members here in terms of what would the structure of that website be, frequently asked questions about process, contact numbers. Who do they call, Frank or Stan or? Those things have to be worked out. So then the question is: How are we going to work those out between now and the next meeting? And we have to decide when the next meeting is.

MS. McCALL: Also, and I just believe that through this website there will be -- that will create a study group because remember at the last meeting I said why are we trying to go out and find people? Let them find us.

DR. BOVE: Well, I think we have some other things to talk about in terms of this website, and that would

be the issue that Tom Townsend raised about the computer illiterate -- or not computer illiterate, but --

DR. RENNIX: Computer accessibility.

DR. BOVE: Right.

DR. CLAPP: Computer resistant, he calls himself.

DR. BOVE: Computer resistant and getting the word out that the thing exists in the first place. So those are two issues we need to discuss probably next time. Morris and I will talk about logistics.

MR. MARTIN: I don't know if everybody has seen Google Earth. I mean, you enter an address in there like 2754 Tarawa Boulevard and it's going to take you right to the house. You know, so that could possibly -- just something you enter that --

MR. ENSMINGER: Not anymore. They destroyed all of them.

MS. DYER: And you know we've had a lot of this happen with us with people contacting our website and then I get a phone call because the Daily News put my telephone number in there, and I'm getting calls from a lot of elderly people that are not computer literate. But dag gone it if they don't find a neighbor or a son or a daughter and they get them over there to do it.

MS. McCALL: Library.
MR. MARTIN: A library.
MS. DYER: And also -- and that's what we tell them is, you know, go to the library. The librarian will help you. You know, don't feel like you can't do this. So yes, it needs to be addressed, but there are ways and if they want it, they'll find a way.
MS. McCALL: Right. If they've got a health issue or a death issue and they feel that that's been caused by the water, there are computers in the malls, in the library, at the neighbor's house. I don't think that should be an issue to be taken into consideration.
MS. DYER: No.
MR. STALLARD: Okay. So some of the specific action items that we have discussed today, which I think you all will probably continue to communicate electronically, which you do, right?
MS. DYER: Mostly.
MR. STALLARD: Most of the time?
MS. DYER: Telephone calls.
DR. BOVE: And I want to encourage everyone to talk amongst yourselves, for one thing. Talk to your experts. Don't wait until these meetings to do that. I will also be talking to your experts as well.

MR. STALLARD: All right. We know where we're going with the feasibility study. The process that's going to -- that will lead into an informed for other future studies. The active notification of those known to live at exposed sites, we found a water model, we're just talking about how the website will be able to address that, but not everybody, based on Tom's comments.

We're talking about checking out the school records and how far they are available, that was the next item. All right. And then working on the format structure and building that framework for the website so that the day after it gets cleared it can be loaded, should that be possible.

So now, what else? We have a few minutes before we need to talk about the next dates.

MS. DYER: Well, one thing and then I would like to bring up and I know it's past, but for now on in the future correspondence between the ATSDR and the DOD -- because it seems like it has taken so long for things to get back and forth to them, if there are questions there's a telephone, you know.

So instead of doing paperwork, can we be on a more personal basis with everybody so that some of this stuff, you know, a month, two months doesn't go by from having

to wait for something to come in the mail, let's get it done on the telephone and use --

MR. ENSMINGER: No, do it via computer.

MS. DYER: All right. Well, computer, telephone, I don't care. But if it's going through the mail and it's taking two months there's no excuse for that and that's making us have to wait. And so either get on the phone, you know, we do have these things nowadays that help us get things accomplished quicker and we need to use them. And I just don't think there's any excuse for it. If you get something, you don't understand it, then get on the dag gum phone and call them and ask them what they want. Because too much time is going past and we need to get some of this stuff done quick. And I appreciate Chris talking about going ahead and proposing to get this computer website, get it ready now. Start working on it immediately, you know, so that it is ready. So these are the kinds of things that we want to see as a CAP being done. We don't want to wait until the next meeting. We want to see that they're doing stuff as we ask them to do it.

MS. McCALL: If they can.

MS. DYER: And monies, if we need to talk about that again, you know, then I think that that needs to be, you know, something that we put, you know, maybe at the next

meeting, you know, talking about future monies for future studies and things like that, because we didn't really...

MR. STALLARD: Okay. Since you are all on this CAP, is there another way that in the interest of transparency and full disclosure that communications now between members can be made more available? In other words, if you send something to them, that the whole panel knows; that kind of thing. I don't know if you don't do that now. I'm just suggesting it.

MS. RUCKART: Yeah, the main way that we've been communicating is by e-mail, and I know that everyone here has e-mail. Some people might check it more frequently than others, but when I send a message that needs to be seen by everybody, I send it to the entire group. The only thing that I send individually is about a specific person's travel, which isn't relevant to the whole group. But I just want to make sure everyone does get those e-mails, that's an effective way to --

DR. RENNIX: Is this a group distribution list that you send it to?

MS. RUCKART: Uh-huh.

MS. BRIDGES: I haven't gotten anything except about that woman from Illinois that wanted some information, and then about sending my stuff in.

MS. RUCKART: We need to check your e-mail. I mean,

we've sent them.

MS. BRIDGES: The four together, I got that. I'm sorry.

MS. RUCKART: Yeah, that's what I'm talking about.

MR. STALLARD: Okay. But what I'm trying to do is to see where the solution is because Terry was just asking for the personal commitment of people to be more proactive in their responses and less bureaucratic and to pick up the phone. So I'm trying to see where in the middle is it institutionalized in our relationships with each other as opposed to goodwill.

MS. RUCKART: Right. I think she was talking about the interactions between ATSDR and DOD on some of these formal agreements that we have and the lag time.

DR. RENNIX: And there's another level of that interaction which is the DOD liaison and the ATSDR liaison that we don't have any influence over. It gets up in that realm and they play their stuff before it gets back down to us.

MR. TOWNSEND (by telephone): Chris?

MR. STALLARD: Yes, Tom?

MR. TOWNSEND (by telephone): Chris, how are you?

MR. STALLARD: Yeah we're here. How are you?

MR. TOWNSEND (by telephone): I had to leave for a few minutes. The picture is very good and as far as communicating goes with the federal government, it seems

to work better over the past several years I thought it worked much better to use a fax to them and that way I've got a confirmation when it goes right on through because everything that goes to Washington, D.C. is going to a screening process for the Anthrax still.

I'm certainly going to take -- I would like to hear from people on the e-mail. My address is wrong and I can have that corrected. I can't type back. I can't answer yes or no, but I'd be glad to call you on the telephone and talk to you about anything. And as they say, if you deal with the federal government it's a hell of a lot better to use the fax as opposed to mail or use the telephone and call people and that gives you a good point of contact. That's been my experience for the last five or six years.

MR. STALLARD: Thank you, Tom. It's that paper trail.

MR. TOWNSEND (by telephone): It does help.

MR. STALLARD: Indeed. Okay. Lastly, the budget. The issue came out about budget. I'm going to put something out here for you all to respond to in some fashion. You've asked to see, you know, what is the budget, how much money, this, that, and the other. It's been explained that there is a fiscal year, how that works, and the submissions and the deadlines and the this and the that, and is it enough money or this, that, and the

other.

MR. ENSMINGER: The lady that's in charge of the budget just stopped me on the way back from the restroom and she's got all the information on that. And if you let her speak she can fill us all in on about that.

MR. STALLARD: Okay. Who would that be and would she like to speak?

MR. ENSMINGER: Come on down.

MS. DYER: Come on up here.

MR. STALLARD: The point is that there are avenues. We've said DOD. There's ATSDR. There's also Congress who seems to have your interests at heart where it doesn't -- you said the fox guarding the henhouse or something, right? In other words, we should be looking at all options available in terms of budget.

LINNET GRIFFITHS: I'm so glad you caught me because when Tom mentioned that I had not given any plan of work to them, it apparently did not get to the CAP members although I submitted it some months ago. But it is forthcoming in the next day or so.

MR. ENSMINGER: Did you hear that Tom?

MR. TOWNSEND (by telephone): Yes, I did. Thank you.

LINNET GRIFFITHS: But there is a process in place as to how we request funding from DOD. It is a law. It's in CERCLA that we have to go to DOD to request the funding

for any NPL superfund site. So this is a process that's been in place since the establishment of CERCLA. We have to have a MOU with DOD on how we would work together, how we would communicate and so forth. So this is an established process. But I can say since we have started this study, there's not been a request that I put forth the DOD that has been denied for Camp Lejeune.

MS. McCALL: Thank you.

MR. STALLARD: Okay. Thank you. The more we know, the more we know.

MR. TENCATE: If I may, just on the budget. I know that Congress has directly funded some other efforts. I was told the Iowa Army Ammunition Plant response was funded directly by Congress, too. So there are other avenues to explore.

MR. STALLARD: Okay. Are we in the position to talk about dates for the next meeting?

MS. DYER: Now why would we want to meet before the water modeling is completed? Just one more time because we got a lot done today and they've got a lot of work to do, and I don't want to stop them from doing everything they need to do. I don't want to waste money coming here for updates if they can't give updates -- do you understand what I'm saying?

MR. STALLARD: Please wait. All right. The question --

MS. BRIDGES: I think a lot's taken place today. I think we've gotten along a lot better. I mean the last meeting was really hot and heavy, but today we're getting along. No one's lost their temper.

MS. DYER: Yeah, see, because you've got September for the water modeling to be done in Tarawa Terrace and you've got the GAO report that most likely should be coming out in September.

MR. STALLARD: Do you want to wait until September to get together?

MS. DYER: I mean, I want to be realistic about this. I don't want to come and waste people's time if all we're just going to do is the same old thing. But we've got some things that they can go ahead and start on. I just don't want to -- if we can get, you know, kind of what's going on. They can give it to us -- come up with a little report, send it to us, but I don't know -- Is it necessary you all to meet again, you know, until after the water modeling is done?

DR. BOVE: And the question is how do feel about it? If you feel that we don't need to meet this summer, there are a lot of things that need to get done, but you don't necessarily have to meet and we can actually call each other up. Like we were saying, there are other technologies besides face-to-face meetings, then that's

fine with me, too.

MS. DYER: I'm just say that in September when we come back here, there needs to be a lot that we see. If we give you guys off this summer then we better see something coming.

MS. RUCKART: Let's say October.

DR. RENNIX: October's worse because we may not have any money, okay, because of continuing resolutions. So in September, which means we have to commit to having that money set aside or it will disappear. So that's the risk there. And then October, we didn't get the money for the continuing resolution until February of this year. So we were basically unable to travel, to do anything until February, except for emergencies. Now, this is important.

MS. DYER: So when do you think? What do you recommend?

DR. RENNIX: Maybe if Morris is on a fast track, maybe late August.

MS. DYER: Boy, he jumped up quick with that.

MR. STALLARD: Morris, your name was used --

MR. MASLIA: I'm always on a fast track.

MS. DYER: August?

MR. MASLIA: To do what?

MS. DYER: You'll have everything done by August.

MR. MASLIA: You mean for Tarawa Terrace?

MS. DYER: Yes.

MR. STALLARD: Yes.

MR. MASLIA: I cannot speak for the Agency clearance process, okay. We are drafting reports. Some of them are in external peer review. Pending what comments come back depending how long -- once it's cleared by the Agency, then, yes, things can be made available. I cannot commit the Agency to a clearance that I have no authority over.

DR. BOVE: Why are we pinning to when you're going to be done clearance on Tarawa Terrace? I don't understand that. I understand the issue of continuing resolutions and that issue. I understand that very well. August is a very bad month, both for me and for probably a lot of you. September might be a better time. So you may want to just wait until then; about the middle of the month, maybe.

MS. BRIDGES: What can we do between now and June?

MS. RUCKART: No, seriously, we need to look at September and think about the dates.

MS. McCALL: Right.

MS. RUCKART: We can start talking about that, maybe, in June and really nail it down.

DR. BOVE: Right. Okay.

MS. BRIDGES: So we're not going to get together in two

months like we have been?

DR. BOVE: Not unless you want to.

MR. MARTIN: We're talking about being a month-and-a-half away, really. We're at the end of April now and I don't see really how anybody's going to accomplish a whole lot in 45 days.

MR. BYRON: My only fear of this is is that as time lapses people are going to forget what we've done here and the next thing is it's budgetary. Are they going to be willing to have us come back six months from now versus two months where maybe we can get the commitment today? I don't know. That's what we need to hear.

DR. RENNIX: What about a teleconference in July, update teleconference?

MR. BYRON: That would be very good.

MS. DYER: So you can set that up?

MR. BYRON: That's feasible.

MS. DYER: Let's do that.

MR. STALLARD: Okay. So we're talking about to keep the momentum going a teleconference in July and a commitment for a next in-person meeting in September.

MS. DYER: Mid September.

MR. STALLARD: Mid September.

MS. RUCKART: When we meet in July we'll need to finalize the date of the September meeting, but prior to that we

can throw out some dates that might work and have everybody be thinking about the date. And in the next week or so I can send out an e-mail to start selecting the date for the July teleconference.

MR. STALLARD: Anything else? Well, remember that when you do plan your trip for September to plan it carefully because we know changes to your TDY are difficult in this bureaucracy. See, I got it in twice, Perri.

DR. BOVE: And encourage them to speak with each other in between meetings.

MR. STALLARD: Yes, absolutely, in between meetings. I mean, Richard has offered himself. Frank, many of you have extended -- Dr. Fisher. So please reach out to the resources available to you and to each other.

MR. ENSMINGER: Yeah, I was just talking to Terry about this. I disagree with not having this CAP meeting because this is not just for this group of people. This is for all the other people that we represent that can't be here and we have a closed teleconference with just us those people are cut out.

MS. RUCKART: Jerry, we could have a teleconference in such a way that it would be broadcast on the Internet. I don't see why the people that are in ATSDR couldn't come here, have the phone the way it is now, and still be broadcasting it with audio on the Internet.

MR. ENSMINGER: Okay.

MS. RUCKART: So then, you know, the audience -- they won't have the call-in numbers so they can't participate, but they could hear and could see ATSDR personnel.

MR. MARTIN: And we'll have, you know, was these reports and everything -- for the last few meetings or get togethers are really I've heard since June or July of last year was we're waiting on the water model, you know, we're waiting on this, and that's one of the critical issues. So we'll be a lot closer. I think today gave all of us a closer understanding of what the water modeling is going to entail. And then as that progresses, hopefully in September we'll have some definite ground to stand on.

MS. DYER: And we had talked at one time, Jerry, about the possibility of doing a teleconference with the doctors as a CAP.

MR. ENSMINGER: Yeah.

MS. DYER: I mean, I think we've learned from this that we haven't been in contact with you, I mean, really. None of the CAP members have really --

MR. ENSMINGER: I've called.

MS. DYER: The majority of the CAP members have not been in contact with you. And I think that we really need to start doing that because you are our doctors and we need

to be able to talk to you and ask you questions and get your help and when Frank starts talking and nobody can understand him, you need to interpret it for us. So, you know, that sort of thing. So I want to encourage the CAP members and myself, you know, to start more of a dialogue between us.

MS. BRIDGES: Then instead of just it going from you to them, send it to all of us.

MS. DYER: That's what I'm saying. If we could set up some kind of conference call with the CAP members and the doctors -- I mean, how do we do that? Who does that?

MS. BRIDGES: When you send an e-mail, send it to everybody.

DR. BOVE: Well, I think that a conference call works better than an e-mail because you want to have some give and take.

MS. RUCKART: If you want to set up a conference call between the CAP members and the two independent experts minus ATSDR and DOD, if you work through me I can give you the bridge line like we're using today. We won't dial in, but all of you can use it. You have to set it up with me so that I know that number isn't being used by someone else at that time, but I can give you access to it.

MS. DYER: Okay. Did y'all hear that? Okay. Yeah, that

would be great.

MR. STALLARD: Is that Tom again? Yes, Tom?

MR. TOWNSEND (by telephone): Would it possible to get the name and telephone number and things like the data on the DOD representatives that are currently assigned to this panel?

MR. STALLARD: Yes. You mean like contact information data?

MR. TOWNSEND (by telephone): I can't hear you too well.

MR. STALLARD: Like contact information data; is that what you're talking about?

MR. TOWNSEND (by telephone): Yeah, contact information data.

MR. STALLARD: Okay. Yes.

MS. DYER: Just not over streaming video, right?

MR. TOWNSEND (by telephone): I'm watching the video, but the sound is not great.

MR. STALLARD: Yeah, we have to talk in the microphones. Yes, you can get that and you will be provided that. There will probably be some sort of minutes after this, I imagine, that will come out of the court reporter and it will be contact numbers for everybody. And actually, Denita is collecting business cards right now.

MS. RUCKART: Clarification. The transcript will be posted, that's just what we're saying verbally. We can

e-mail out the contact information separately and much sooner than the transcript will be available.

MR. STALLARD: Okay. Great. Well, is there anything else?

MR. ENSMINGER: Yes. There's one defining question that I've got to ask. Tom?

MR. TOWNSEND (by telephone): Yes.

MR. ENSMINGER: Did you get the squirrel?

MR. TOWNSEND (by telephone): I got the squirrel away from one dog, but the other dog ^

MR. STALLARD: That's okay. Listen, thank you as a group of you coming together. There is a different energy than the first time. And as we continue to work together, the relationships and the progress will be visible to all, okay. So just believe in the process and we are moving forward. So thank you and have a safe journey. That's it.

MS. McCALL: I just want to thank Perri, and Shannon, and Dr. Bove, and Dr. Clapp, and Dr. Fisher, and our court reporter, and Mike, and Chris.

MS. DYER: She loves everybody.

(Whereupon, the meeting was adjourned at 3:00 p.m.)

CERTIFICATE OF COURT REPORTER

STATE OF GEORGIA

COUNTY OF COBB

I, Shane Cox, Certified Court Reporter, do hereby certify that I reported the above and foregoing on the day of April 20, 2006; and it is a true and accurate transcript of the testimony captioned herein.

I further certify that I am neither kin 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 8th day of May, 2006.

_____

SHANE COX, CCR

CERTIFIED COURT REPORTER

CERTIFICATE NUMBER: B-2484