U.S. DEPARTMENT OF COMMERCE

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COMMERCE SPECTRUM MANAGEMENT

ADVISORY COMMITTEE (CSMAC)

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MEETING

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TUESDAY

JUNE 18, 2013

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The Committee met in Room 4830 of the U.S. Department of Commerce, Herbert C. Hoover Building, 1401 Constitution Avenue, N.W., Washington, D.C., at 1:00 p.m., Gregory Rosston, Co-Chair, presiding.

PRESENT
GREGORY ROSSTON, Co-Chair
LARRY ALDER, Member (by phone)
DAVID E. BORTH, Member
MARTIN COOPER, Member (by phone)
MARK E. CROSBY, Member
THOMAS S. DOMBROWSKY, JR., Member
DAVID L. DONOVAN, Member
HAROLD FURCHTGOTT-ROTH, Member
H. MARK GIBSON, Member
DALE N. HATFIELD, Member
KEVIN C. KAHN, Member
MARK A. MCHENRY, Member
JANICE OBUCHOWSKI, Member (by phone)
CARL POVELITES, Member
RICHARD (RICK) REASER, JR., Member
DENNIS A. ROBERSON, Member
CHARLES M. RUSH, Member (by phone)
DANIEL DEAN STANCIL, Member (by phone)
THOMAS J. SUGRUE, Member
BRYAN TRAMONT, ESQ., Member
JENNIFER WARREN, Member

ALSO PRESENT

LARRY STRICKLING, Assistant Secretary of

     Commerce for Communications and
     Information
TERESA (TERI) M. TAKAI, Department of Defense,
     Chief Information Officer
KARL B. NEBBIA
TOM POWER
STEVE SHARKEY

MAJ GEN ROBERT E. WHEELER, USAF
MARGARET (MOLLY) FELDMAN

A-G-E-N-D-A

1   P-R-O-C-E-E-D-I-N-G-S

2   1:03 p.m.

3   CO-CHAIR ROSSTON: Welcome to the

4   CSMAC meeting and we had a competition up here

5   at the front for who could congratulate Karl

6   first because his FCBA award in excellence in

7   government service. Since I open the meeting,

8   I'm going to congratulate Karl.

9   (Applause.)

10   I believe he is the first NTIA

11   award winner in this category and it's

12   definitely well deserved. So now I will turn

13   this over to Larry.

14   ASST. SEC. STRICKLING: The actual

15   event honoring Karl will be this Thursday

16   night at six o'clock at the Microsoft D.C.

17   office, 9th and K. So be there or be square.

18   Let me also recognize a special

19   guest we have here today, Teri Takai, the

20   chief information officer from the Department

21   of Defense and I don't - I can't even count

22   all of the excellence in government service

1   awards Teri has won in her term of duty here

2   in Washington.

3   And prior to that, she was the

4   chief information officer for the state of

5   California and for the state of Michigan and

6   she's been providing yeoman service as a

7   member of the board of directors of FirstNet,

8   the public safety broadband board that was put

9   together here last year.

10   So welcome, Teri. We're really

11   glad to have you here. I think this will be

12   a really good discussion.

13   And I guess all I urge the

14   industry people to do is Teri is, I think,

15   really working hard to try to find solutions

16   for the issues that face us and I think that

17   we should remember that in terms of discussing

18   some of these issues with her.

19   I mean, we have some very

20   difficult things to deal with. We all know

21   that. But I will tell you that Teri has been

22   incredibly proactive and helpful throughout

1   the whole process regardless of what you think

2   about government bureaucracy not being able to

3   make decisions on these things.

4   We are far better off with having

5   her working on these issues with us. So I

6   look forward to a good discussion there.

7   Other than that, I just want to

8   welcome everybody to today's meeting. Again,

9   we continue to make good progress.

10   I know we've been hampered by some

11   administrative issues, in particular the

12   information-sharing one.

13   Tom is taking care of that with a

14   direct order from the President that he got

15   the President to issue last Friday and Tom

16   will talk about that a little bit later.

17   But we recognize that as we try to

18   build these new ways of working together and

19   interacting with each other, we're going to

20   run into these kinds of issues and I think the

21   test for all of us is how ably we can solve

22   them and how timely we can solve them and I

1   realize we're pushing it on the timely.

2   We've probably already gone too

3   long on the timely part. But these aren't

4   easy issues and we've got to find a way to

5   solve them, all of these, in a way that's fair

6   to industry, that is respectful of the nature

7   of the information that needs to be shared and

8   that builds a real solid structure for the way

9   we're going to have to work together for years

10   to come.

11   So I know we'll have a discussion

12   on that in the course of today's meeting. But

13   as always, I appreciate all the work that

14   every one of you is doing and just as

15   importantly all the work that many of your

16   staff members are doing in terms of

17   participating in the working groups on the

18   1755 and 1695 bands and we're going to hear

19   reports on all those today.

20   We look forward to hearing about

21   all the progress and I look forward to keeping

22   - pushing to get this spectrum reallocated in

1   a way that is responsible for both industry

2   and the federal agencies.

3   So with that, I'll turn it back to

4   our chair, Greg. Do you have any other

5   announcements you'll be making?

6   CO-CHAIR ROSSTON: No, I wanted to

7   do a little housekeeping first and then ask

8   Tom if he wanted to say a couple words.

9   But let me just - one of the

10   things - as you all know grab a microphone

11   before you speak because we are recording this

12   and broadcasting it.

13   And also I wanted to ask if there

14   are any CSMAC members on the telephone to

15   identify yourselves.

16   MEMBER OBUCHOWSKI: Janice

17   Obuchowski is on the phone. Sorry I couldn't

18   be there in person.

19   MEMBER FELDMAN: Molly Feldman.

20   MEMBER COOPER: Marty Cooper is on

21   the phone.

22   CO-CHAIR ROSSTON: So I heard

1 Marty and Molly and Janice. Janice, Marty,

2 Molly. Any -

3   MEMBER ALDER: And Larry Alder's

4 on the phone as well.

5   CO-CHAIR ROSSTON: Okay.

6   MEMBER RUSH: Charlie Rush is also

7 on the phone.

8   CO-CHAIR ROSSTON: Great. So I

9 have Janice -

10   So we're only asking for the CSMAC

11 members.

12   Great. Okay. Tom, did you want

13 to say a few words?

14   MR. POWER: Sure. Thanks. First,

15 I don't know if you've heard Karl Nebbia

16 received an award. Seriously, let me join in

17 the congratulations. Very well deserved and

18 also we welcome you, Teri, here.

19   It's been great working with Teri

20 the last few years as I've gotten into the

21 spectrum issues and learned so much from her

22 and her team at DoD and, of course, thank you

1   to Larry for his leadership here.

2   We did get the presidential

3   memorandum issued last Friday. Thank you to

4   many of you who helped or inspired it directly

5   or indirectly.

6   The working groups that, you know,

7   we're going to be talking about today are very

8   much an inspiration.

9   They are basically called out in

10   the memorandum as a model for the kind of work

11   that needs to be going on and that needs to be

12   improved upon if - as we execute on the

13   memorandum.

14   You know, the work, as Larry said,

15   is hard and I don't know that it's getting any

16   easier but it does take the kind of

17   collaboration that these working groups have

18   been doing and focus on the memorandum is to

19   find more ways to open up information, to

20   share information, to share expertise and to

21   bring the benefits of spectrum to the American

22   consumer while at the same time protecting the

1   vital federal systems that run on it.

2   It is - it's been a - I think a

3   successful process to date to an extent but as

4   Larry recognized we've - you know, we do run

5   into challenges and that's the way it goes.

6   We're sort of on new territory in

7   a lot of ways in terms of sharing of data,

8   sharing of information, sharing of expertise

9   and it's to be expected that things won't go

10   perfectly.

11   I think a lot of times from the

12   outside there are folks who don't see the hard

13   work that you folks are engaged in, that all

14   the members of the working groups are engaged

15   in.

16   But that's okay because we know

17   the hard work will continue because it's so

18   important to the mission of the agencies, to

19   the economy and the country and it's - you

20   know, when you look at it from the nationwide

21   consumer business perspective what it's doing

22   for jobs, what it's doing for productivity,

1   you know, the success we've been having with,

2   you know, having more - most of the world's 4G

3   subscribers living in this country, the

4   biggest manufacturer of wireless chips in this

5   country, operating systems for wireless

6   devices are products of this country.

7   Wireless apps are an American

8   industry. It's great stuff but we have to

9   continue to build on it and at the same time

10   make sure that the vital federal systems that

11   allow all that to happen that keep us safe and

12   that serve us in so many ways are also

13   protected.

14   So it's obviously a big priority

15   for the President. That's why he put out the

16   memorandum in June 2010.

17   That's why, you know, the

18   administration has been working so hard with

19   respect to 3.5 gigahertz spectrum that the FTC

20   has now put out for rulemaking, the 5

21   gigahertz spectrum that the FCC has now put

22   out for rulemaking, the legislation that we

1   worked so hard on and worked with the Hill,

2   with Republicans and with Democrats, to get

3   that done.

4   The incentive auctions - the FCC

5   will be - that are setting the rules for it

6   now, the other work that the FCC has been

7   doing, the mobility fund for universal

8   service, the broadband grants, it's a - I'm

9   assembling the list here just to remind

10   everyone of how important this is to the

11   administration and to thank you for the work

12   that's gone into all this, and looking forward

13   to hitting the ground running with this

14   memorandum and building on our successes. So

15   thanks.

16   CO-CHAIR ROSSTON: Thanks, Tom.

17   So I want to now - Larry already did the job

18   of introducing Teri Takei to everyone.

19   I just want to say that, you know,

20   I think that these working groups have been

21   working really hard in a lot of the - a lot of

22   the membership and work on it is due to people

1   in the Department of Defense.

2   So I want to thank Teri for taking

3   the time to come here and talk to us all about

4   the process and how things are working and we

5   do appreciate all the work that's being done.

6   So we've got sort of two sections

7   that are - that can be kind of melded together

8   if you want, however you want to take on this

9   and start talking. You should probably drag

10   the microphone closer to you.

11   MS. TAKAI: Yes, I think that's

12   probably true. Well, thank you very much for

13   having me today. We really appreciate the

14   opportunity to be here.

15   Let me just open up with a couple

16   of comments that I think follow on to Larry's

17   comments and to Tom's comments because I think

18   they are extremely important.

19   First of all, you know, we really

20   appreciate the work that NTIA has done to

21   actually set up and start this and keep this

22   process moving.

 1   I think you can see by virtue of

 2   our contribution of personnel and leadership

 3   in the teams that we are very focused on

 4   making this process work.

 5   It's extremely important to us

 6   going forward to be able to come up with

 7   solutions that work both for industry but also

 8   in terms of our fulfilling our

 9   responsibilities from a national security

10   perspective.

11   So, you know, Larry and Karl,

12   something about an award. Anyway, we just

13   want to, you know, say that we very much

14   appreciate that.

15   The second thing is I really want

16   to thank Tom Power. You know, every time Tom

17   gets tasked with writing an executive order or

18   a letter or a press release, he is good enough

19   to call us and actually work with us in terms

20   of actually, you know, what are our concerns

21   or, you know, how would we approach it.

22   And Tom, you know, this last EO I

1   felt was very, very really well done, very

2   well balanced.

3   I thought it gave us all a good

4   way ahead. So I just want to thank you for

5   your willingness to really work with us.

6   So I have a bunch of remarks which

7   are probably irrelevant because I think we

8   might as well get to the core issue here and

9   I'm sort of warmed up since I did a Washington

10   Post webinar.

11   For those of you that had the

12   chance to hear that this morning, it was one

13   of my fun experiences for the day.

14   So today's my spectrum day. Where

15   we are is, you know, we've been working

16   through the process. So there are several

17   areas where I know that DoD has been a

18   challenge.

19   One of them has definitely been -

20   let me just back up in terms of the inventory

21   process - and that has been a challenge in

22   terms of how do we provide the CSMAC with

1   adequate information to be able to do analysis

2   and yet still not have that information be

3   such that you can, if you will, reengineer

4   back into what the impact could be on our

5   systems.

6   And we have clearly not hit the

7   mark in terms of all of what you would like to

8   have in order to be able to do that sharing

9   and it is something that we have to continue

10 to work on so I want to start with that.

11   But, clearly, despite the fact -

12 and this is where NTIA really worked with us -

13   despite the fact that we couldn't get all of

14 the inventory out in a timely fashion, what we

15 tried to do was to get at least preliminary

16 information out and then as we could get

17 through our lawyers to ensure that we weren't

18 doing anything that was in jeopardy to get the

19 remainder of the information.

20   And we'll come back to that when

21 we talk about perhaps some of the things that

22 we could do for the future.

1   The second issue has been around

2   the NDAs, which was a lengthy process. I know

3   all of you know that, I know Larry knows that,

4   I know Tom knows that in terms of what the

5   challenges have been.

6   When we finally have peeled the

7   onion back, we have two issues - one, which I

8   think we have hopefully a solution for, and

9   the second one, which I think is the topic of

10   the next item, which is really how do we - how

11   do we do and how do we look at this as a way

12   going forward, all right.

13   The two challenges that we had

14   with these initial NDAs, one of which is not

15   easily solvable, is as Larry reminds me, I'm

16   very often paranoid and I'm paid to be

17   paranoid.

18   So that's a challenge that we're

19   going to have going forward that we're going

20   to have to work through.

21   The second issue was really one

22   that perhaps we didn't fully understand until

1   we got the lawyers together was a concern

2   about protecting those individuals who signed

3   the NDAs to ensure that their companies would

4   not be precluded from future business

5   opportunities with DoD in the sense that if

6   they got this advance information was there

7   the possibility that later in any business

8   that you bid for, it could be construed that

9   you had - your company had prior knowledge.

10   Now, I understand that for those

11   of you that are telecom companies it's a

12   pretty big stretch, right. But for others of

13   you who are in the telecom business and yet

14   sell other things to DoD, that is a

15   possibility, as remote as it all might be.

16   So one of the things that General

17   Wheeler did, and I'm going to let him speak to

18   the next steps here because one of the things

19   that is important is that from a public record

20   standpoint that we've also disclosed our

21   process to ensure fairness. So that, again,

22   you know, that's something that we can do

1   going forward.

2   We have in fact worked with Steve

3   Sharkey and several folks - I think a couple

4   of people in this room - to actually craft a

5   set of questions that effectively, by virtue

6   of the answers, ensure that there was a fair

7   and open process so that we can put that fair

8   and open process on the public record so that

9   as each of the individuals, the 12 companies

10   that will sign the NDAs, that there will not

11   be a risk that at a future point in time that

12   could be an issue, all right.

13   And we've received the responses.

14   We've received the responses, in fact, this

15   morning so this is late-breaking news. The

16   lawyers are now - my lawyers are now going

17   back.

18   We've written all of the NDAs.

19   We're just validating whether the NDAs need

20   any, you know, changes by virtue of the

21   responses that came back.

22   Barring that, we will plan to get

1   all of those. You know, we'll sign them.

2   We'll get them all out to you to be signed and

3   that will hopefully alleviate at least the

4   short-term issue.

5   But before I go any further, let

6   me just give General Wheeler the opportunity

7   to just walk through some of the details that

8   we want to make sure are included from a

9   public disclosure standpoint in terms of the

10   way that the companies were selected to make

11   sure that there's no, you know, future

12   assumption that, you know, was it a fair and

13   open process.

14   MAJ. GEN. WHEELER: Ma'am, you

15   pretty well covered it all but I'll walk

16   backwards on a couple of the comments in

17   there.

18   Bottom line to that, I do want to

19   say thank you to Steve Sharkey and his team

20   because his folks came in and we worked it out

21   with a group of government lawyers that are

22   FACA experts to protect the companies from an

1   acquisition perspective for future

2   acquisitions and their team.

3   And they came through those and we

4   turned the questions very quickly and those

5   have provided the basis for an NDA that will

6   go out to draft - it should be out the door

7   either late today or tomorrow - that'll allow

8   them to make any final changes or any

9   disagreements that we have in there to work

10 through.

11   And that lets the next step, that

12 once they are given the restricted data, if

13 you will, the FOUO data, the for official use

14 only data, in the conglomerate that they'll be

15 able to do their analysis and bring it back to

16 the CSMAC group here and vet the analysis in

17 the public forum from that particular

18 perspective.

19   That also goes back to the

20 discussion within the questions that talked

21 about how the individuals were selected within

22 the working groups and the CSMAC process and

1   that it's open if somebody else wanted to come

2   in sometime and wanted to be a part of that

3   team, and that really encompasses it.

4   It's been a really interesting

5   discussion through all the different

6   government agencies on the - on the processes

7   and the legal aspects of it.

8   But I think we've got a good way

9   forward here. Barring any other problems out

10   there, I think we'll have a very quick way

11   ahead to get this particular data out for use

12   and be able to vet that particular data to see

13   if there's any other ways ahead that we're

14   missing. And that's it.

15   MS. TAKAI: Thank you. Before we

16   move on to just some discussion around, you

17   know, sort of approaches to future

18   information-sharing, let me just stop here if

19   I could and just ask if there are any

20   additional questions about the process or

21   about what General Wheeler just spoke to.

22   Yes, sir.

1   MEMBER MCHENRY: What was the

2 process to pick the 12 people? We didn't know

3 about it. I didn't know about it.

4   MS. TAKAI: Pardon me?

5   MEMBER MCHENRY: What was the

6 process to pick the 12 people?

7   MS. TAKAI: General Wheeler, do

8 you want to just walk through how that was

9 done in the group?

10   MAJ. GEN. WHEELER: Basically, it

11 came out of the working groups. They

12 volunteered out of the working groups.

13   They went forward and asked if

14 these were the folks that Steve here joined

15 and if I - if I need to be corrected but came

16 to the work groups, requested volunteers.

17   Our volunteers came forward to the

18 larger piece and anybody can be added at any

19 certain point in that particular area. But it

20 was based upon that and not a lot of people

21 wanted to volunteer for that because it was a

22 lot of added work.

1   And so from that perspective the

2   folks that did want to came forward and they

3   represent a cross section of industry all the

4   way across for those 12 folks, and we can add

5   more at any time in the future if anybody

6   would like to join.

7   MS. TAKAI: Steve, do you want to

8   speak to that? Because I think in many ways

9   it was a CSMAC - I mean, I called General

10   Wheeler up here but it was a CSMAC-run

11   process.

12   So I don't want to - you know, we

13   didn't by any means prejudice who volunteered

14   or who was selected and I think that's very

15   important.

16   MR. NEBBIA: And just

17   administratively just to be - actually we've

18   got a member here who's asking somebody in

19   support of him to do the speaking.

20   Part of our challenge here is this

21   just can't become a public, you know, open

22   discussion. So just to try to maintain some

1   sense of FACA control.

2   MS. TAKAI: Okay.

3   MR. SHARKEY: So it was a list

4   that was selected of - from the working groups

5   of the companies that were participating in

6   the working groups.

7   So we went through and selected

8   one participant from each of the companies

9   that were providing active technical support

10   in the working groups.

11   It didn't include CSMAC members

12   because the CSMAC members themselves are not

13   really active participants in the working

14   group although I know, you know, they've got

15   a role there and as liaisons in the working

16   group process.

17   So I think that was - you know, so

18   we just selected those and then circulated

19   amongst the wireless industry participants

20   that were participating in the working group

21   and came to agreement on that.

22   CO-CHAIR ROSSTON: So is it the

1   understanding that if there are others who

2   would like to be involved - there was no one

3   who was cut out?

4   MR. SHARKEY: Yes, absolutely.

5   Right. There was no - you know, the intent

6   was that anybody that was actively

7   participating or had an interest in

8   participating would be able to, you know,

9   provide a representative there.

10   CO-CHAIR ROSSTON: Let me just

11   move one step backward just to make sure this

12   is clear for everybody is, the working groups

13   themselves at the start were open to anybody

14   coming in so there's been no culling of

15   anybody or no secret, no sort of prevention of

16   anybody getting involved.

17   If people have been involved in

18   the working group from the start they were

19   allowed to do that if they wanted to be

20   involved and then these were, again, to

21   further the work to be involved in this.

22   That's a reasonable understanding

1 of how the process worked and that if people

2 in the working group want to get involved in

3 this they can. Do you have clarification,

4 Karl?

5   MR. NEBBIA: Just to be certain,

6 in this case there's - the intention is some

7 direct sharing of information and discussion

8 between the participants in this group and

9 DoD. That's the reason the NDAs are required.

10   So anybody who wants to

11 participate on this basis is going to have to

12 get into the NDA arrangement. So this is a

13 discussion essentially between DoD and

14 participants in the working group very

15 directly.

16   So just so you - if you want to

17 raise your hand and say man, I'd like to

18 volunteer - I was in the working group just

19 remember this is - this is going to be a

20 component of it. You're going to have to -

21 they'll sign NDA and if they have an agreement

22 then -

1   MS. TAKAI: I think that's a good

2   distinction, Karl. There is a distinction

3   between how people either select or self-

4   select and then what the next step is in order

5   to be able to participate. I think that's a

6   good distinction, yes.

7   MEMBER REASER: This is Rick

8   Reaser. The question is what class of

9   information are we talking about as far as

10 non-disclosure agreement? Is it for official

11 use only?

12   MS. TAKAI: FOUO.

13   MEMBER REASER: Okay. So

14 basically this NDA entitles someone to be -

15 now, for CSMAC member since they're already

16 special government employees is are we - I

17 thought - what's the rule for CSMAC members?

18   I thought CSMAC members were

19 eligible for FOUO, or not. That's the

20 question.

21   MR. NEBBIA: I mean, I don't - we

22 have to go back and check that exactly but -

1   MS. TAKAI: I don't know. I don't

2   know the answer to that.

3   MR. NEBBIA: So we'd have to -

4   we'd have to look that up. But, certainly,

5   the intention of the discussion as requested

6   by the participants in the working group was

7   to have a conversation between the people who

8   are producing equipment and operating services

9   who had this - the direct need because they're

10   the people in the end that are going to be

11   coordinating outcomes.

12   Wasn't intended just to get people

13   of general interest or other things engaged

14   but to actually directly work on those issues

15   where, certainly, as we - as we look at the

16   working group reports we've come to a place

17   where we need more detailed discussion if

18   we're going to move the ball forward.

19   CO-CHAIR ROSSTON: Are there

20   questions on this piece? Anyone on the phone?

21   Okay.

22   MS. TAKAI: All right. So if I

1   could, let me just move to the next

2   discussion.

3   One of the things that NTIA, Larry

4   and Karl and I were talking about in terms of

5   thinking about how we could do this in the

6   future and particularly as we move to not just

7   unclassified information but just an

8   understanding overall is to really - and one

9   suggestion that we've been thinking about is

10   whether or not there was some type of a

11   trusted agent arrangement that we might be

12   able to create where in fact there are several

13   organizations inside government who are doing

14   quite a bit of technical work around spectrum.

15   Certainly, we've got the defense

16   spectrum organization. I know that NIST does

17   some spectrum work. There are others in

18   government that do spectrum work.

19   And so I think from the standpoint

20   of information sharing, it becomes much easier

21   for us and, quite frankly, more protected if

22   in fact we're giving our information to a

1   government agency or a government related

2   agency that has the protections of that

3   government agency and then somehow that group

4   then can work with industry in a way that does

5   not really jeopardize that information being

6   used for other purposes.

7   And let me be clear - I'm

8   certainly not concerned about, you know,

9   members of this group but clearly, in order to

10 do this work it has to be done by engineers.

11   It's going to be done in working

12 groups. You know, those individuals are going

13 to move around to different places, to

14 different companies.

15   I mean, perhaps they'll all stay

16 within the groups that are in this room. I

17 don't know exactly how people move around.

18   But I have to be concerned about

19 not only where that information is going to go

20 while they're working on it at the point in

21 time that we're working on it with the CSMAC

22 group but, clearly, these systems are going to

1   be around for a while and the systems that

2   we're talking about are systems that actually

3   train our men and women so that they have the

4   capability to do their jobs and do their jobs

5   anywhere in the world.

6   And the potential that that could

7   be disrupted from a training perspective here

8   in this country particularly with the

9   challenges that we have from the cyber

10   perspective I think we just all need to be

11   cognizant of and we need to, you know, step

12   back and think about what is a way.

13   And, again, you know, one of the

14   concepts that I'd like to talk more about and

15   I've spoken to NTIA about is thinking about a

16   government agency that could be that

17   intermediary from a trusted agent perspective.

18   Haven't worked out all the

19   details. We've just started to think about

20   it, started to think about who the right group

21   might be, where the right expertise might be.

22   You know, there's a lot of things

1   that we would need to do still but I'd like

2   to, you know, concentrate that work, first of

3   all, in a smaller group of people.

4   Try to use, you know, government

5   and government clearances to try to help

6   protect that information and then just for us

7   all to think about, you know, from a national

8   security perspective it isn't just that

9   information today.

10   It's about where that information

11   could go, how that information could be

12   accumulated and then none of us five years

13   down the road, I think, whether we're in

14   government or we're not in government, want to

15   be in a situation where that information was

16   used to jeopardize men and women, you know,

17   who are there representing us.

18   So that's, I think, the challenge

19   for us going forward. We're open to any

20   suggestions that you have in terms of work

21   that you do with other government agencies -

22   you know, areas where you're able to do the

1   sharing.

2   But, again, my request is, you

3   know, we're not openly trying to hide

4   information.

5   We're not openly not willing to

6   work with you. You know, clearly, you know,

7   for any of us to be able to share spectrum or

8   vacate spectrum is going to take time and it's

9   going to take money and we're willing to

10   invest.

11   I mean, we've put a lot of time

12   into each one of these working groups.

13   I haven't held back staff at all

14   in terms of, you know, being there to be on

15   every single working group and I think

16   carrying the bulk of that and we're all taking

17   that out of hide. I mean, you know, I'm

18   furloughing people. We have sequestration.

19   I'm not trying to whine.

20   I just want to give you a

21   perspective that we really feel that we are

22   working to contribute but there just are some

1 things from an information sharing perspective

2 that it's my responsibility to find the right

3 way to be able to do that so that, again, we

4 can get to some solutions from a sharing

5 perspective that work for everyone.

6   So, you know, with that, Larry, I

7 think I mentioned to you that, you know, there

8 are options.

9   As I say, you know, one of the

10 organizations that actually is a part of

11 Commerce and in fact it's an organization that

12 together between DoD and NIST we've set up a

13 testing operation because we feel like we

14 needed an all-of-government ability to be able

15 to test rather than each individual

16 organization testing.

17   So between NIST and DoD we've set

18 up an organization that will do testing.

19 NTIA, yes, and what did we call it? We called

20 it NASTA, right? Yes, we called it that.

21   Anyway, I'll have to figure out

22 what the acronym is. So I just think that

1   that's an example.

2   I think another opportunity, Tom,

3   is, you know, some of the things that were in

4   the EO that talked about setting up an

5   organization that could effectively do some of

6   this engineering work, that may be the right

7   avenue for us going forward.

8   So we have a couple of

9   opportunities, I think, by virtue of the work

10   we're doing with NTIA, you know, the work

11   that's been laid out as part of the EO to see

12   whether or not we could use those constructs

13   to be able to set up this kind of a trusted

14   agent kind of an arrangement.

15   So I look forward to working with

16   you on that because I think that is a better

17   way ahead than, you know, sort of consistently

18   - the NDAs get us through the short term but

19   I think we need something that's a little more

20   dynamic to work for the future.

21   So that's really it for me. Thank

22   you very much.

1   CO-CHAIR ROSSTON: Okay. Carl?

2   MEMBER POVELITES: Carl Povelites.

3   How would a trusted agent then work with - I

4   mean, I understand the NDA concept because the

5   companies themselves can be participating in

6   the - I can see how the NDA process can work

7   because the individuals from the companies

8   themselves will be working in obtaining the

9   information.

10   Under a trusted agent scenario

11 where it's a government entity being the

12 trusted agent, how does that information

13 sharing then - how would that get back to the

14 industry participants and at such a level that

15 they wouldn't need an NDA or I'm just trying

16 to -

17   MS. TAKAI: I guess what my

18 concept is and we need to work it but the

19 question would be would you - would there be

20 the need for an NDA for, you know, each area

21 of information and then is there - would there

22 be a way for the trusted agent to bring all

1   those data together so that it isn't

2   necessarily these data are identified as DoD

3   and then have the industry folks actually work

4   with the trusted agent.

5   So there's sort of a buffer zone,

6   if you will. But, again, I'm only bringing

7   out concept to all of you. You know, we

8   haven't fleshed out the detail but we do have

9   arrangements, other kinds of arrangements,

10   where we use sort of a trusted agent

11   intermediary and we just need to see if that

12   would work.

13   If it doesn't then, you know,

14   we'll have to look at what are some of the

15   other opportunities. And what I will tell you

16   is that, you know, as we work through how to

17   solve this problem I also really would

18   appreciate information and input from you as

19   you think into, you know, how would you hold

20   your engineering folks accountable for the

21   information and how can you ensure that that

22   information isn't then - when that employee

1   leaves your employ or five years from then

2   when they're in a wholly totally different job

3   how would they be accountable just as a

4   government employee is accountable for

5   ensuring that that information doesn't get

6   into the hands of a party who will

7   effectively, you know, could look to damage

8   the United States.

9   And I'm open to suggestions but

10   that is the dilemma that I have. That is the

11   challenge, I think, that we all have to face

12   in terms of being able to work through this

13   problem.

14   CO-CHAIR ROSSTON: Tom?

15   MEMBER SUGRUE: Is this on? Good.

16   Hi, Teri. Tom Sugrue with T-Mobile. For the

17   purpose of this group I work for Steve Sharkey

18   and he's - but I - and we appreciate all the

19   progress we've made here and the good will and

20   I just want - and the executive order and the

21   work Tom and Larry and others have done and,

22   of course, Karl.

1   But I just want to add, you know,

2   time is of the essence with respect to this

3   one block of spectrum that's so critical to

4   the mobile broadband industry, that 25

5   megahertz.

6   The clock is ticking. We,

7   together with AT&T and Verizon, have put

8   together an industry roadmap that we approach

9   with great seriousness and included as much

10   detail as we could given the information we

11   had to try to move the ball forward.

12   If we miss the window on this

13   it'll be a big loss, you know, for all of us.

14   We had a meeting with someone in the White

15   House on this and they asked well, how much

16   would that spectrum be worth if you unpaired

17   and 20 cents on the dollar.

18   We said well, maybe the upper part

19   would be 20 cents on the dollar but 1755 to 80

20   would be about a nickel on the dollar, if

21   that.

22   There's nothing to pair it with,

1   not even sure what we'd do with it if we miss

2   the pairing opportunity. By contrast, it's

3   tremendously valuable if we can - if we can

4   get it.

5   We've tried to move the ball

6   forward in the letter in which the CTOs of

7   each of these companies said okay, we heard

8   that you're worried - you don't trust us. You

9   know, you don't trust us.

10   We'll give you that spectrum or

11   give you access to it under whatever sets of

12   rules and sharing principles are appropriate

13   and you'll be back the next week the sooner to

14   get your greedy hands on that, saying now we

15   want the next 25.

16   So we basically said something I

17   don't think industry's ever said which is

18   we'll say hands off for that remaining 70

19   megahertz for the next ten years.

20   You won't hear from us on that.

21   And that took a little bit of, you know, stiff

22   upper lip because you don't know where the

1   industry's going to be. Ten years in spectrum

2   world is, you know, practically infinite.

3   So I just hope that's taken as a

4   good will gesture. It was intended that way.

5   I mean, it wasn't intended as a throwaway if

6   that's - and but we look forward to working

7   through this process and hope we can find a

8   solution to that. Thank you.

9   CO-CHAIR ROSSTON: Other comments?

10   MR. NEBBIA: Just as we look

11   ahead, as Teri was saying, we are looking for

12   a way to reproduce what works out positively

13   here and so we'll be looking at the set-up

14   that DoD has been talking about.

15   We have, you know, had other, you

16   know, brain bubbles come up about well, DoD's

17   been represented by a contractor in most of

18   this analytical work - is it possible to have

19   the private sector represented by a contractor

20   so you're dealing with one entity on both

21   sides.

22   Are there other approaches that

1   can be, you know, can be taken to make this

2   work. So if you have thoughts down that line

3   we would certainly love to hear them.

4   Some of you have been right in the

5   middle of all this and, you know, when you

6   come out the other side we'll be looking for

7   your recommendations on how we could do it.

8   We have other bands that are

9   currently in process, the 3.5 band, and - if

10   anybody's on the phone, if you could make sure

11   you've muted your phone we'd appreciate it.

12   But the 3.5, some of the 5

13   gigahertz bands whether that, you know, would

14   be worthwhile and bring them in here. Right

15   now they're being dealt with elsewhere and

16   that may be the right way to go.

17   But we are looking for your

18   feedback on this - on this concept because

19   ultimately the dialogue has to go on if we're

20   going to work through these issues.

21   Whether they involve sharing,

22   transitioning toward relocation or relocation

1   itself there's going to have to be this kind

2   of discussion.

3   CO-CHAIR ROSSTON: Thank you.

4   Great. Thank you very much, Teri. We really

5   appreciate all the work that you and your team

6   have been putting into this process and I

7   think it, you know, it's going to make a big

8   difference and hopefully we'll be able to move

9   forward with not only the trusted agent

10   concept but also getting the spectrum so that

11   it is useable by both the Defense Department

12   and by commercial interest. So we really

13   appreciate all this work.

14   Okay. Why don't we move on to the

15   progress reports on the working groups, and I

16   think the first working group is Working Group

17   Three and is that Rick going to take charge on

18   that one?

19   MEMBER REASER: Yes, and I don't

20   know whether Charlie is still on the phone but

21   we spoke briefly at this point.

22   Okay. So, basically, Working

1 Group Three dealing with satellite uplinks and

2 electronic warfare and a lot of things have

3 happened since when we returned the slide -

4 slide review a week ago.

5   So we returned to the slides a

6 week ago and I thought we had reached some

7 closure but apparently we didn't because

8 yesterday morning when I got in the airplane

9 DoD had a bunch of comments.

10   So I didn't update the slides. I

11 didn't have time to do that since I was

12 flying.

13   So I'm just going to sort of talk

14 about what DoD's comments were and sort of

15 give my perspective and Charlie's perspective

16 at the end of this thing.

17   So basically - go to the first

18 slide - there are three basic areas that we're

19 looking at in this working group.

20   One has to do with the

21 interference from the mobile handsets that

22 essentially include satellite receivers. The

1   second has to do with interference from the

2   satellite uplink transmitters into the base

3   stations and the third had to deal with

4   electronic warfare.

5   So, essentially, I won't read the

6   slides but we actually got the inputs for the

7   text this morning from DoD on the interference

8   from the handsets into the satellite receiver.

9   So that came in this morning as I

10   was driving over here from the hotel. So

11   we'll take a look at that. This is the first

12   block of texts we've gotten from DoD so we're

13   pretty pleased with that input from the

14   Department of Defense.

15   The other thing that's sort of

16   gone - DoD has relooked at this issue and they

17   have some additional reservations in their

18   latest submission about this and I'll talk a

19   little bit more about that in the - later on.

20   The second issue was the

21   interference from the satellite uplink

22   terminals into the commercial base stations.

1   DoD - one of their comments was they felt that

2   it might be too strong a word to say that you

3   can mitigate interference through - from the -

4   they'd like to have that word changed to may

5   so that was one of the inputs.

6   The other thing that happened was

7   that we actually received last Thursday after

8   we put these slides together the Phase Two

9   study that was talked about there.

10   So that came - that came out on

11   Thursday. There was a meeting on Monday which

12   unfortunately I was flying at the time where

13   they went through that.

14   I think that the wireless people

15   are taking a look at that and there's a lot of

16   useful information in that.

17   From my perspective, there wasn't

18   - I was sort of expecting more but I

19   understand the dilemma's about information

20   transfer and release and so forth. But so

21   that information is under review right now by

22   the - by the working group and hopefully will

1   generate some text.

2   We didn't get any text for that

3   part of it from DoD. Right now we have a

4   baseline text which was created by the

5   industry people and DoD has commented on that.

6   So I'm not exactly sure the status

7   of where that stands in that particular set of

8   texts dealing with that issue.

9   But our first sort of drafting

10   group is going to be this Thursday to start

11   going through the texts that we just got on

12   the uplink interference into the satellite

13   receivers and then we'll start talking about

14   this.

15   The other thing was that there was

16   an expectation in some of the action items

17   that we were going to get a second report

18   about mitigation techniques and ideas to

19   mitigate the satellite uplink transmitter

20   interference into the base stations and DoD

21   told us that there's not going to be a second

22   release and that basically they released all

1   the information they're going to release.

2   And then the details of all this

3   we worked out during the drafting so there

4   won't be an additional mitigation section or

5   information.

6   They're going to - they're going

7   to work that in the drafting groups when we

8   get going on the actual text.

9   Electronic warfare - it took us

10   about six or eight months to get the text done

11   but we have a very short text that has been

12   agreed to on electronic warfare.

13   It doesn't say much because the

14   federal agency didn't want to release much

15   information for us to go through.

16   But basically it says that

17   electronic warfare will continue to operate on

18   a noninterference basis to this - to any new

19   services introduced into the band and we made

20   some recommendations about that FCC and NTIA

21   and DoD look and make sure that they have

22   adequate models to increase the potential

1   increased workload, assessing those things,

2   because essentially when you operate on a

3   noninterference basis you kind of have to

4   verify that to yourself, and your models and

5   tools you should be able to do that.

6   So we had offered to take a look

7   at that but that was something they wanted to

8   do so they're going to - we recommended they

9   do that on their own.

10   So that's - those are the key

11   subject areas. Just to sort of summarize, I

12   think where we're at on the devices and the

13   receivers we have DoD's information.

14   They were - unfortunately they had

15   - the industry couldn't really be a part of

16   that because there was a lot of sensitive

17   information so DoD did their own study on

18   that.

19   And so in the second release there

20   was some additional text that sort of maybe

21   cautioned that we may be too optimistic about

22   whether that's interference or not.

1   The information that - and we have

2   the text - got that this morning now so what

3   the issue is is that the department wants to

4   have a mechanism to assess whether as things

5   build up in the mobile handset thing whether

6   that's going to cause interference.

7   Now, the number that was in the

8   report was this minus 205 number which is a

9   pretty low number and I think industry is, you

10   know, that's like - I won't get into it but

11   that's a number that's pretty amazing.

12   But the industry believes that

13   they can beat that number or build out anyway

14   so they're not really worried about the

15   number.

16   As many of you know, I was - I ran

17   the original studies on this stuff like 13, 14

18   years ago and I think it's important that the

19   department and anybody who operates this band

20   understand that the rest of the world actually

21   operates in this band already in large

22   numbers.

1   So I think that the DoD would

2   really be wise to go back and take a look at

3   the numbers around the rest of the world as

4   well because that band is pretty well built

5   out in Europe and a lot of other places.

6   So the problem with the

7   satellites, if there is a problem, is not

8   going to be just for the United States. So

9   that would be one of my suggestions.

10   I actually ran that study in 1998.

11   So and that was before they actually had the

12   whole thing built out. So that's where we are

13   on that one.

14   Got the text, the studies are done

15   and so now we're going to have to go through

16   and work out - work out the details.

17   And the other thing is what the

18   mechanism would be to sort of guarantee - give

19   DoD comfort that somehow the U.S. build-out

20   was not to the point of interfering with

21   satellites with this minus 205 number. So

22   that's where that's at.

1   Okay. On the interference from

2   the satellite terminals into the base stations

3   we got the - we got the report last week and

4   that's being looked at and so the industry

5   people were kind of going through that.

6   There's a lot of interesting

7   information. It was like briefing slides and

8   so just have to parse that into things that

9   can be used in models and so forth and so on.

10   Like I said, we are obviously

11   hoping for more. We may ask for a couple

12   other details. We got a lot of detail on

13   three of the sites and less detail on other

14   sites and so that may or may not be an issue.

15   The DoD picked the sites they

16   thought were the most useful to the wireless

17   industry and so forth and so that's under

18   work.

19   One of the things that - one of

20   the comments that I got on the charts was in

21   the last bullet. One of the things that I

22   think industry would like to do, and it kind

1   of goes along with this whole issue of the

2   NDAs and direct dialogue, was this idea of a

3   direct interaction between the engineers on

4   both sides of the parties like that.

5   And one of the cautions we got

6   back from DoD on Monday morning was that hey,

7   listen, that sounds great but somebody's got

8   to pay for all that. So if you want to talk

9   to a DoD guy, you know, you got to put money

10   in the meter somehow.

11   So that was one of the comments

12   that we got and I guess - I guess that's

13   somewhat legitimately but that was one of the

14   comments on the slide that they cautioned us

15   on that whole idea of direct interaction.

16   Somebody will have to pay for the DoD's time

17   to actually make that - mechanize that.

18   Electronic warfare, basically,

19   we're done. The text has been agreed and it

20   doesn't say much but that part of - that part

21   of the effort is done.

22   Like I said, there's a drafting

1   group that's going to start meeting on

2   Thursday and I won't be there, unfortunately,

3   because I'll be at the national championships

4   for track and field with my daughter. So I'll

5   try to dial in maybe.

6   There are a couple things that -

7   so I'm going to give you a couple observations

8   about where I think we're at overall from sort

9   of a CSMAC perspective and my observations

10 haven't changed from the last meeting, you

11 know, where I made my comments.

12   But, essentially, I think where we

13 are is that the DoD has - is willing to share

14 this band on a noninterference basis with

15 commercial wireless as long as they have some

16 mechanism to make sure they don't interfere

17 with the satellite receivers.

18   And they will provide some

19 information although there's a lot of caveats

20 with the information that you would give to

21 this party who's going to share on a

22 noninterference basis, okay.

1   And so there's one - and there's

2   sort of a continuing theme in the briefings

3   and stuff, and I'll just read one of the

4   bullets on this last slide and this sort of

5   sums up, I think, one of the difficulties that

6   we're going to have as we - if we can kind of

7   construct a regulatory framework or something

8   that would go in the notice of proposed

9   rulemaking or the auction rules or something

10   like that.

11   But regulatory provisions should

12   allow for potential changes in government

13   mission requirements including the possibility

14   of greater satellite contact times, higher

15   power levels at existing sites in addition to

16   new sites.

17   And so what that says is you can

18   share on a noninterference basis but we have

19   the right to change anything on our side of

20   that equation when we want to.

21   So that's going to present a lot,

22   I think, difficulties in terms of how you

1   would set up a sharing arrangement if one side

2   can change.

3   The other one has to do more with

4   the satellite thing. I think the industry has

5   some ideas. They're less worried about but on

6   the satellite - interference with satellite

7   receivers they believe they can handle that.

8   The question will be what kind of

9   - you know, I've talked to Charlie and Charlie

10   has one of the - what the FCC used is sort of

11   for that trigger and then how - what would the

12   process be in case you did see some kind of

13   issue that you were somehow bumping up against

14   the minus 205 DBW for hertz. So that will be,

15   I think, the other challenge. But anyway, I

16   think we sort of demonstrated it's possible to

17   share the band in some way and there will be

18   some areas where you might have some issues

19   but those might be workable.

20   But how you construct all that in

21   terms of an auction when one side can sort of

22   change the rules after the fact so it's going

1   to be a difficult problem.

2   Charlie, are you still on the line

3   or are you picking up your grandson yet or -

4   yeah, I think Charlie had to drop off. Any

5   comments or questions from the floor?

6   CO-CHAIR ROSSTON: Anyone else

7   have comments or questions? I had a question.

8   So you mentioned that you got information on

9   three sites.

10   MEMBER REASER: We had detailed

11   information on three sites and less

12   information on the other ones. There's

13   probably - if you look at the list, there's

14   probably 25 sites or so on their list.

15   They updated the list - they

16   actually in the second update, they added a

17   bunch of sites that weren't on the original

18   list and they're - I don't want to - they're

19   lesser sites but there are other sites that

20   were not in the original disclosure that we

21   got back in October and that came out in April

22   to give some additional sites.

1   But we didn't get, you know, the

2   same level of information. And what - I think

3   what the carriers would like to have is

4   something that says, you know, by sector what

5   frequencies, how often do you use them, period

6   of time, some statistical data so they can

7   make some assessments and then at that point

8   they would take a look at tower siting and so

9   forth, you know, using that as a guide.

10   At the end of the day, though,

11   most carriers are probably going to take

12   measurements, figure out where it is and where

13   the best coverage is and lots of other things.

14   So some of this kind of becomes interesting to

15   a point.

16   In fact, it's been suggested the

17   only way they're really going to be served is

18   to run measurements like put something up and

19   see what's really going on.

20   Although it would have been nice

21   to have some statistical data that says, you

22   know, by frequency band and by sector of the -

1   where the antenna points in time, you know,

2   how often they usually point in this

3   direction.

4   Because if you have - if you have

5   one station that's always using the same

6   frequencies in this particular 25-inch or 25

7   degree radial, you know, 24/7 you may not want

8   to put a cell tower real close to that or wipe

9   that off the list.

10   But we didn't get a lot - we

11   didn't get that kind of data for every site so

12   -

13   CO-CHAIR ROSSTON: Do you expect

14   to get more data on this?

15   MEMBER REASER: I think they might

16   ask for it but at this point I think that - I

17   think people are happy to know that DoD's

18   willing to share on a noninterference basis

19   because that seems to be - I mean, that was a

20   - and to some people that was a major

21   milestone on this because that's certainly the

22   implication that we got out of this.

1   CO-CHAIR ROSSTON: Because to me

2   it seems like it's kind of important to know

3   about all the other sites as well.

4   MEMBER REASER: The DoD said

5   they're done releasing data so, you know,

6   we'll ask and so we're - it's not me. I mean,

7   I'm just the liaison.

8   CO-CHAIR ROSSTON: I know. Mark?

9   Dennis - I'm sorry.

10   MEMBER ROBERSON: Okay. To what

11   degree is -

12   CO-CHAIR ROSSTON: Say your name.

13   MEMBER ROBERSON: Yes, this is

14   Dennis Roberson. To what degree if any did

15   the prior discussion bear on this where we now

16   would have the trusted agents or the

17   individuals with additional information

18   available to them? Would that be a part of

19   providing some of the missing information or

20   is that a different scope?

21   I'm a little unsure and I've not

22   participated in your working group so I don't

1   really know where that sits.

2   MEMBER REASER: This is Rick

3   Reaser. It could. The - I think at this

4   point though people were just - in some ways

5   are just trying to get a general feel.

6   Obviously, my - since I ran these

7   studies for several years when I was in the

8   department, my thirst for data is probably a

9   lot more than most people so I always have

10   higher expectations about things.

11   I guess the real issue is that,

12   you know, data is classified. I think those

13   things will be worked out.

14   Eighty percent of all classified

15   data is held at contractors like mine,

16   Raytheon. We have more clearances than any by

17   a factor of three or four from the government

18   people.

19   I think that we could certainly

20   protect the data if it was given. We have the

21   mechanism to do that.

22   Otherwise, the DSS would pull our

1   facility clearances, which my inspection is

2   going on at home right now.

3   So we certainly can protect it and

4   that would certainly, I think, help in some

5   respects to have that share.

6   But when push comes to shove

7   though and I'm not a carrier - I'm a spectrum

8   guy - but, you know, the carriers are probably

9   going to want to site these terminals using a

10   lot of other criteria like where are existing

11   towers is one because real estate is an issue.

12   And so they're going to - they're

13   going to have a whole set of other criteria

14   that they may not want to necessarily disclose

15   to DoD. Right, Tom? I mean, and what their

16   build-out plan is going to be.

17   So there's the other issue. So at

18   the end of the day, this data would be useful

19   I think but it remains - a lot of carriers

20   talked about what they would really do in

21   terms of tower of site.

22   MEMBER SUGRUE: Well, we'll show

1   you ours if they show you -- We could

2   actually in the measurement process - you

3   know, we've done this exercise - gather some

4   data on this and we've been hung up in sharing

5   it a little.

6   I hope that - I think the trusted

7   agent process is designed to facilitate some

8   of that sharing. Is that right?

9   Is that right, Steve? Hopefully.

10   So we'll have something additional just

11   recently done to add to the mix.

12   CO-CHAIR ROSSTON: Are there other

13   questions? Any members on the phone, anyone

14   want to ask a question? Okay. Great. Thank

15   you, Rick. Sorry. Kevin?

16   MEMBER KAHN: Well, I just wonder

17   what - I mean, one of the things I've kind of

18   seen go by, you know, in watching some of the

19   Working Group Five work and I wonder if it

20   reflects on this as well, is that some of the

21   data that seems to be protected, I guess, and

22   I'm not by any means, you know, familiar with

1   the internals of how DoD has to protect

2   information so I don't want to make light of

3   it.

4   But, you know, for data that is

5   readily accessible by anybody who wants to

6   kind of wander around outside the satellite

7   facility with a measurement device and in

8   fact, readily able to get full statistical

9   information of the sort you want, it does

10   strike me as a little bit make-worky to force

11   the carriers to essentially go do that

12   exercise themselves, which they are completely

13   capable of doing if they, you know, and I

14   would expect to the extent that it's an issue

15   for them when they go to bid on some of that

16   spectrum in doing their diligence ahead of a

17   bid that's probably what they would actually

18   do.

19   So in fact we have a situation

20   where there's data that is a completely

21   external perspective public. I mean, it's

22   public in the sense that I can put an antenna

1   up and I can get it.

2   But we're kind of going to require

3   industry to do a lot of work to get that data

4   when in fact the data could be made available.

5   And as to the issue of - I mean, I

6   understand wanting to protect information, you

7   know, that couldn't be readily captured that

8   way.

9   But if in fact it is data that is

10 sort of, you know, radiation intensity density

11 information that is directly measurable I just

12 wonder about the level of, you know, a hand

13 shake here.

14   It seems like we're creating a

15 make-work situation for carriers for no

16 particular reason, when you get down to it.

17   MEMBER REASER: This is Rick. Let

18 me - here's my perception of that. Since the

19 model is one of a noninterference basis the

20 entire onus is always on the person operating

21 on a noninterference basis to begin with.

22   So that could be one and I'd like

1   maybe you to respond. But that could be one

2   thing. That would certainly be my attitude if

3   I was in - I mean, if I - it's up to your job

4   to figure it out.

5   And the other issue to get into is

6   if the person who's the owner of the band or

7   the incumbent if they reserve the right to

8   change their characteristics at any time and

9   in anyway then what value is the statistical

10   data that they gave you in the first place?

11   And so that's the other thing. So

12   while it may seem like a lot of work and I

13   will say somewhat logical from what the model

14   is we're talking about - an NIB that's subject

15   to change.

16   CO-CHAIR ROSSTON: Great. Thank

17   you. Thank you, Rick for that. Let's move on

18   to Working Group Four. Mark?

19   MEMBER GIBSON: Okay. Thanks,

20   Greg. Well, like Greg I'd like to kind of say

21   that - or Rick, you know, we're getting ours

22   in under the wire. In fact, you have the hot

1   off the presses in front of you. I'll start

2   off by apologizing for that.

3   You know, a lot of people have

4   been hard at work trying to get this resolved.

5   What we tried to do was to give you a brief

6   that's actually been finalized.

7   At least we have agreement in

8   principle from DoD and industry.

9   Consequently, it's a kind of ugly looking

10   brief so I'll take the heat for that.

11   I didn't really have time to

12   smooth it out so you may see a little bit of

13   redundancy in some of the bullet points.

14   Nonetheless, I really would like

15   to thank the work done on both sides, industry

16   and DoD. It took a heavy lift to get to where

17   we are and I think, you know, for all intents

18   and purposes we're in a good place.

19   However, at the very end I have a

20   status update. Disregard all those dates.

21   Those were made two weeks ago when I thought

22   we had more time. So I apologize for that.

1   So on slide two what we did is -

2   I'm not going to go through the whole thing.

3   I'm just going to go through the

4   recommendations and to the extent we need to

5   go back to the background I'll be happy to

6   talk about that.

7   Given the microwaves systems and,

8   again, we had three equities we were looking

9   at - point to point microwave, tactical radio

10   relay and joint tactical radio systems or

11   software defined radios.

12   And so we start with the easy one,

13   which was the point to point microwave. So

14   the first recommendation is relocate them for

15   the NTIA report which says they can go.

16   But we added a little fluff to

17   this to say prioritize these based on

18   commercial system deployment.

19   In other words, you know, if

20   you've got something in a downtown area that

21   could be relocated and give maximum benefit to

22   a carrier as opposed to something on the top

1   of a mountain somewhere in the middle of

2   nowhere, prioritize it based on where the

3   carriers are located to the extent feasible.

4   And then also concentrate if

5   possible on the lower portion of the spectrum.

6   And then finally, at least on the microwave,

7   the transitional sharing approach that was

8   used in AWS One was really crafted primarily

9   for microwave systems so there's no reason we

10   can't use it here as well, and the only thing

11   is we just need to codify that, I think, for

12   this.

13   Going to the next page, which is

14   the recommendations for the TRRs, again, the

15   first - the first bullet is to go ahead and

16   relocate them for the NTIA report.

17   I would add also one of the

18   reasons we've been kind of doing heavy lifting

19   on this is - and as good information we got

20   some updated information from DoD on the

21   relocatability of some of these systems that

22   we really didn't have or at least a little

1   more granular information.

2   That was valuable information but

3   it came late in the game and it took a fair

4   amount of effort to, you know, untangle some

5   of what it meant and put it in terms of

6   recommendations.

7   And so that's why some of this

8   might seem a little bit self-evident and may

9   not make any sense, which is why I'm here to

10   give you some detail on it.

11   Anyhow, for the first bullet, you

12   know, we say relocate the systems that can

13   relocate based on the time frames in the

14   report. If you look on slides 10 and 11 where

15   there's a little bit of background that

16   explains where they can go.

17   There's a combination -

18   compressing and relocating. So the

19   recommendations do that consistent with what's

20   in the rest of the recommendations.

21   Again, industry wanted to know if

22   it would be possible to prioritize these

1   systems so their recommendation is to

2   prioritize them similar to the way we do or

3   suggesting we do it for microwave systems and

4   that is try to relocate them out of the lower

5   portions of the spectrum.

6   First, if possible, to make the 25

7   megs available and also, again, and consider

8   the areas where industry has high-value market

9   areas they're interested in and focus on those

10 first but also consistent with DoD's ability

11 to do that.

12   So it's sort of a push me/pull you

13 kind of thing. And so that's for the

14 relocation, you know. Then there's the

15 sharing part of it that we concentrated on.

16   And so the third bullet on that

17 page, three, talks about, you know, the

18 sharing aspect and that's to establish

19 protection zones around all the areas of high

20 priority for the TRRs.

21   Now, we got a second set of TRRs

22 added from the data that we got a little late

1   in the process and so that's that column you

2   see on the left, the Army TRRs that are there.

3   And so the Army, combined with the

4   Navy and Marine Corps, I think, comprises a

5   total of 13 locations and so these are areas

6   where we want to establish protection zones.

7   But I want to refer back to the -

8   or ahead to the recommendations for future

9   work because that's going to describe a little

10   bit about, you know, how we're going to do

11   those protection zones in the recommendations.

12   So if we'll turn to slide four,

13   the idea behind the bullet you'll see at the

14   top of slide four and the bullet you see at

15   the bottom of slide three you might be going

16   duh, and when I first looked at this I

17   thought, duh.

18   And the reason we have this is

19   what we want to do is we want to ensure that

20   we perform protection zone analyses on all

21   sites that - for which that are there.

22   There was a fair amount of back

1   and forth between industry and DoD on this

2   discussion because I think that not

3   considering the statewide locations there's

4   over a hundred locations where there's

5   tactical radio relay systems and DoD didn't

6   want to take any more out of hide to do a

7   protection zone analysis.

8   And so there's a bit of question

9   as to if we do more protection zone analysis

10 where does that come from. That's a, how

11 shall I say, a topic to be deferred later.

12   However, we do believe that as a

13 recommendation protection zone analyses should

14 be performed on the remaining locations where

15 they haven't been done and by the way we only

16 were able to get four locations done for the

17 TRRs and that's in the background.

18   So the idea behind this and there

19 was a lot of back and forth on this but what

20 the recommendation says is go ahead and

21 perform the remaining analyses of protection

22 zones on the areas as necessary, and as

1   necessary has a lot packed into it but

2   basically it means that if there are

3   situations which they went after auction the

4   TRR can tune out and they go ahead and tune

5   out there's really no reason to do protection

6   zone analysis.

7   And so that's kind of what that

8   says and that's why we separated the bullets

9   to kind of amplify that point.

10   MEMBER POVELITES: Mark, just a

11   question on this - Carl Povelites. What is

12   your definition of protection zone? It's not

13   an exclusion zone, it's more in line of what

14   came out of Working Group One?

15   MEMBER GIBSON: And Five. Well,

16   no - One. Yes, we had some issue with

17   taxonomy but in this context the understanding

18   is protection zone is an area within which if

19   deployment is desired there is some additional

20   interaction that's required and we talk a

21   little bit about that in some of the future

22   work and recommendations.

1   Any other questions before I move

2   on? Yes.

3   MEMBER DONOVAN: Dave Donovan. In

4   terms of the protection zones, however they

5   are defined, they appear to be fairly large.

6   MEMBER GIBSON: Right.

7   MEMBER DONOVAN: Is it safe to

8   say? And so when we get to the issue of where

9   they're relocated I assume the protection

10   zones for incumbents on those bands would have

11   a similar issue or would you be able to share

12   or did you study with that? Did you study

13   that?

14   MEMBER GIBSON: Well, they're -

15   yes, they're relocated, you know, and there's

16   a difference here. Again, in taxonomy there's

17   the term compression and relocation and in the

18   context of just this working group the term

19   compression really implies that they're

20   relocating in the upper portion, the 1780 to

21   1850 meg band, and relocation means that we're

22   moving out.

1   So but in any situation where TRR

2   relocates out of the lower portion, we don't

3   need to do any more analysis.

4   That's gone, and based on what Tom

5   said a little bit earlier it's probably not

6   necessary to do a protection zone analysis if

7   it's in the upper portion.

8   But, you know, we can talk about

9   that. Does that answer your question, Dave?

10   MEMBER DONOVAN: Yes. I think I

11 was just trying to - just going through the

12 slide. It may be out of place here but

13 essentially in terms of relocation I think one

14 of the background statements on slide 11

15 requires 2025 to 2110 megahertz and are you

16 looking at that band for relocation of these

17 systems?

18   MEMBER GIBSON: We are not.

19 That's sort of out of the scope of the - of

20 what we're doing.

21   MEMBER DONOVAN: Okay.

22   MEMBER GIBSON: It's to identify

1   spectrum for relocation. That's out of the

2   NTIA report and so -

3   MEMBER DONOVAN: Okay.

4   MEMBER GIBSON: - presumably as

5   part of the transition planning - and I don't

6   want to take that thunder but I think that's

7   part of when that - when that will happen is

8   the identification of spectrum. And, in fact,

9   and that's where we make a recommendation.

10   Thank you.

11   You're leading into my next point,

12   which is develop transition plans that address

13   relocation of assignments, compression and the

14   comparable spectrum. So that's the next - the

15   second bullet on Page 4

16   MEMBER DONOVAN: Okay. So you're

17   not recommending that these be moved to that

18   particular band?

19   MEMBER GIBSON: No, we're not.

20   MEMBER DONOVAN: All right. Thank

21   you.

22   MEMBER GIBSON: We're just

1 recommending that they be moved consistent

2 with the NT - or the DoD's ability to do so

3 consistent with the industry's desire to move

4 specific ones. Does that make sense? Because

5 it didn't make sense to me.

6   MEMBER DONOVAN: Yes, I was just

7 trying to figure out because, you know, the

8 interference analysis that's done here -

9   MEMBER GIBSON: Yes.

10   MEMBER DONOVAN: - obviously, may

11 or may not. I mean, we just don't know it'd

12 be applicable to any incumbents that would be

13 in that particular band.

14   MEMBER GIBSON: Yes.

15   MEMBER DONOVAN: And the zones are

16 so large -

17   MEMBER GIBSON: Yes.

18   MEMBER DONOVAN: - that it could

19 have some significant effect of folks in those

20 bands.

21   MEMBER GIBSON: Well, bear with me

22 as we go through this. We have

1   recommendations as to try to make those zones

2   smaller.

3   MEMBER DONOVAN: Okay.

4   MEMBER GIBSON: That's kind of

5   some of the recommended future work and you'll

6   see that consistent, I think, with five.

7   MEMBER DONOVAN: All right. Thank

8   you.

9   MEMBER GIBSON: Thank you. So

10   back on slide four I think we're on the third

11   bullet. Again, transitional sharing approach

12   - the idea behind the transitional sharing

13   approach is in situations where a system can

14   relocate but it can't relocate consistent with

15   the time frame for early entry by carrier, we

16   end up with this situation called transitional

17   sharing.

18   So the idea behind this bullet is

19   to, you know, sort of moralize that or codify

20   - codify is a strong word but make it official

21   in terms of a process.

22   And so this bullet literally says

1   that for deployment in a sharing - in a

2   protection zone then we need some sort of a

3   process to do so.

4   Now, that'll probably be similar

5   whether it's a protection zone that's going to

6   stay for all time or a protection zone for a

7   system that's relocating. But that's kind of

8   a detail we really haven't gotten into.

9   Bottom line is we need to develop

10   an approach for sharing and we have some

11   discussion about what that might look like in

12   the recommended future work. Any more

13   questions on that?

14   Okay. We're on slide five. Slide

15   five, the first bullet, again, may seem like

16   it's self-evident but DoD was adamant that

17   they wanted to make sure that their - sharing

18   is allowed in situations where there's no

19   commercial interest.

20   And so there was some back and

21   forth and, again, this is sort of an ugly

22   outcome of that back and forth but the bottom

1   line is that DoD wants the ability to continue

2   operations in areas where there is no interest

3   whatsoever.

4   Industry's concern was that well,

5   we don't know what no interest means and so

6   what we tried to do is sort of bound that by

7   saying, you know, based upon auction outcomes.

8   This is going to need a little

9   more work within the working group. This is

10   really something we came to this morning.

11   But both sides - they probably

12   were weary from the discussions and so but DoD

13   and industry were sort of comfortable with

14   this statement. But, again, we need to work

15   a little bit more as to what it means.

16   And then, finally, you know, we

17   want to develop a testing program to ensure

18   that, you know, as we do have relocation and

19   moving in - deployment into sharing zones that

20   we have a mechanism to identify whether the

21   interference methodologies are appropriate.

22   At least, that's what this one says.

1   MEMBER ROBERSON: Mark, just real

2   quick. In the first bullet when you talk

3   about sharing the entire band in areas where

4   there's no commercial, who are you sharing

5   with?

6   MEMBER GIBSON: It'd be sharing

7   with the DoD. So it'd be sharing the band

8   where the TRR systems are still located.

9   So, for example, if there's a TRR

10   system that is not one of the 13 that's on one

11   of the previous pages but there's no interest

12   and they have no way to know - where they've

13   had no desire to relocate or compress then

14   there's no reason they can't stay put.

15   MEMBER ROBERSON: So they'll stay

16   put and share with other DoD utilizations?

17   MEMBER GIBSON: Well, that's the

18   term is what does sharing mean if there's no

19   interest in sharing. And so that's why it

20   needs a little work.

21   Now, frankly, if there's no need

22   to deploy there's no sharing. So it's -

1   MEMBER ROBERSON: And that's what

2   it sounded like as you described it but -

3   MEMBER GIBSON: - a metaphysical

4   question but -

5   CO-CHAIR ROSSTON: Basically,

6   continued federal access.

7   MEMBER GIBSON: Continued federal

8   operations, yes.

9   MEMBER ROBERSON: Yes, rather than

10 share it -

11   MEMBER GIBSON: Yes.

12   MEMBER ROBERSON: - because you're

13 not -

14   MEMBER GIBSON: I hear what you're

15 saying, Dennis. Trying to strike the word

16 share was difficult so, you know, now that

17 this is memorialized you can go back to the

18 working group and say, you know, share doesn't

19 really mean anything if there's nothing to

20 share with. But like I said, it's a

21 metaphysical thing.

22   MEMBER BORTH: Mark, I'm just

1   trying to think about procedurally how that

2   would work. At some point, NTIA would

3   transfer spectrum from federal use from the

4   TIA jurisdiction -

5   MEMBER GIBSON: Right.

6   MEMBER BORTH: - to the FCC. And

7   initially there would be some that would be or

8   continued sharing or some special areas for

9   protection zones. But then outside of that

10   presumably it's just all transferred over to

11   the FCC.

12   But I don't know how you transfer

13   it conditional on an -

14   MEMBER GIBSON: I know. I warn

15   you, I don't know how that works.

16   MEMBER BORTH: Don't warn me.

17   Warn them.

18   MEMBER GIBSON: But I hear what

19   you're saying because once it's in the FCC

20   jurisdiction -

21   MEMBER BORTH: Yes, I know.

22   MEMBER GIBSON: - it's there.

1   Well, that's like it's - that's why it's a

2   topic for future study, I can say. Go ahead.

3   MEMBER WARREN: So Jennifer

4   Warren. Well, as you think about it, unless

5   an auction raises the 110 percent of the

6   revenues necessary to compensate for the

7   relocation costs, it's not a foregone

8   conclusion that it remains FCC, right?

9   MEMBER GIBSON: But then the FCC

10   would have to transfer it back to NTIA. It's

11   either fish or fowl. That's all.

12   MEMBER WARREN: Yes, I'm not sure,

13   and then Brian?

14   MEMBER TRAMONT: I was just saying

15   you could potentially - this is Bryan Tramont

16   - you could also potentially make them

17   secondary, right?

18   In the places where there's no

19   commercial operations, they would therefore

20   have a right. In the absence of other

21   operations they'd be fine. So there would be

22   other ways to get there, potentially.

1   And I don't know how you declare

2   where there are areas where there's no

3   commercial interest either. That's a separate

4   problem.

5   But it feels like there could be -

6   there should be ways to have it.

7   MEMBER GIBSON: There's lots of

8   precedence where the commission puts licenses

9   out for various forms of being claimed.

10   They are claimed and then

11   subsequently there's an auction and then if

12   they still aren't claimed - there's no finite

13   point in time where the FCC says if we don't -

14   if we don't assign a license at this point in

15   time we will never assign a license. That

16   isn't how the FCC looks at things.

17   MEMBER TRAMONT: Yes.

18   MEMBER WARREN: We work very well.

19   Again, Jennifer Warren. I do think, though,

20   that under the CSEA when you have federal

21   spectrum involved and relocation if there's a

22   difference - a different framework than

1   perhaps what is not the case in other - in

2   other bands that I think could impact this.

3   So I would raise that.

4   MEMBER GIBSON: And I was going to

5   say with the protection zones presumably are

6   cases where the federal users would remain

7   primary and then for the places where there's

8   no federal interest they'd be secondary. It

9   wouldn't prevent the licenses from being sold

10   at auction.

11   There would just be a primary

12   commercial user and a secondary federal user

13   who presumably could talk to the - whoever the

14   owner is of the spectrum on the commercial

15   side and make them aware of their existence

16   and perhaps work out a deal to make it not be

17   a problem. So I think there's paths there.

18   MEMBER TRAMONT: Yes, and thank

19   you. I've written them down.

20   MEMBER GIBSON: So yes, and I

21   appreciate the feedback.

22   Like I said, this is kind of ugly

1   right now and it hasn't been baked real well

2   and I apologize for that.

3   It's just that this is one point

4   that was a bit of a sticking point within the

5   group and I think we need to dig into it a

6   little more and figure out what it means and

7   how to move forward with it.

8   So I appreciate the feedback. Any

9   other questions on this one? Okay. And oh,

10   Harold, sorry. I mean, Dale.

11   MEMBER HATFIELD: In the TAC I've

12   been thinking a lot about the enforcement

13   issue and sort of pushing the notion that

14   enforcement kind of has to be designed in at

15   the get-go and not wait until you do something

16   and then try to figure out how to enforce it.

17   And this seems to - your second

18   bullet seems to focus on sort of the

19   transition but if you're thinking about sort

20   of long ongoing sort of enforcement to make

21   sure that the issues are identified, you know,

22   propagation models turn out not to be valid

1   for a particular location, that sort of thing.

2   MEMBER GIBSON: Yes. I mean, it's

3   - it could be long term. The idea was that we

4   wanted some protections using real world

5   measurement data in the event that we

6   determined or that is not determined but it

7   was determined that the interference

8   protection criteria, for example, or the

9   clutter values were misused or not used or

10   didn't make sense.

11   MEMBER HATFIELD: But I'm talking

12   about after you're all done. Then after the

13   commercial operations are in place in some

14   sort of a sharing mode then what the

15   enforcement tools would look like.

16   What sort of cooperation there

17   would - to follow up on the conversation what

18   sort of cooperation would be needed between

19   the FCC doing its thing and what DoD would be

20   doing its thing in terms of protecting the -

21   in protecting the environment.

22   MEMBER GIBSON: If you go back to

1 slide four, the very last bullet on the page,

2 it's the third bullet - never mind.

3   It's the last bullet on the page,

4 third bullet under the second bullet under the

5 third bullet, it says that we'll establish a

6 process to ensure that in the event

7 interference can be sourced to commercial

8 wireless operations that there's some effect.

9   You know, the wireless operators

10 will modify the operations in the band or

11 something will happen and so that's kind of

12 the enforcement point that we wanted to put in

13 there so -

14   MEMBER HATFIELD: It seems awful

15 general.

16   MEMBER GIBSON: It does. It does.

17 You're right. Want to join the working group

18 and we'll -

19   MEMBER HATFIELD: This I might be

20 able or capable, I think. Some of the others

21 are a little technical for me at this point.

22   MEMBER GIBSON: Okay. All right.

1   Thanks. I think that's it for the

2   recommendations for TRRs. Now we're on slide

3   six. The recommendations for JTRS are very

4   similar so I won't dwell on them too long.

5   The difference between TRRs and

6   JTRS were and in the NTIA report there's very

7   little information about the JTRS ability to

8   relocate.

9   In fact, there's nothing. And so

10   what happened was DoD came back with some

11   information about JTRS' ability to compress

12   which was helpful because it at least made the

13   discussion a little bit more about

14   transitional sharing. It was about long-term

15   sharing.

16   Nonetheless, there were some areas

17   that DoD wanted to maintain operations and so

18   that's this first bullet. It said, you know,

19   establish the protection zones around the

20   areas that are going to maintain operations

21   and hence these six areas here.

22   For the other locations, the

1   second bullet now, for the other locations

2   compress as possible or as indicated in the

3   update. The update will be provided in the

4   rest of the report.

5   But, again, the time frames to

6   compress need to be consistent or should be

7   consistent with commercial deployment and the

8   actual system tuning should be conditioned

9   upon a request from industry.

10   Apparently these things can tune

11   pretty quickly so we envisioned a process and

12   though that's not in here we envisioned a

13   process that would be similar perhaps to the

14   frequency coordination where there is a

15   request for entrance into a zone and an entity

16   says we can tune and there's no more

17   interference or something like that.

18   So that's kind of what that means

19   and we'll have to work a little bit more on

20   fleshing that out in the report.

21   And finally, the last bullet on

22   that page is, again, similar to the one we had

1   on the other page was to perform the

2   protection zones analyses around the rest of

3   the areas as feasible and, again, the

4   situation we have now is there was analysis

5   done but the idea behind this and the TRRs is

6   to use the recommended future work to refine

7   the process and you'll see that in a moment.

8   Slide seven - the same thing we

9   just talked about so I won't dig into it.

10 We'll revisit the notion of sharing when

11 there's no sharing but, you know, I understand

12 the intent of the sharing when there is no

13 sharing.

14   And they also - again, the second

15 bullet here is, again, similar to the TRR, the

16 transitional approach to permit deployment in

17 protection zones.

18   Now, you might say what does that

19 mean in the context of these things being able

20 to compress.

21   We're not sure of the operational

22 issues and there may be operational situations

1   where these things can't compress right away.

2   So there will need to be some

3   measure of transitional sharing and so that's

4   what this second bullet says and there are

5   some protections on what that means including

6   an enforcement protection that Dale is going

7   to help us with.

8   And then finally, again, the same

9   thing we had is with TRRs, that the testing

10   program to demonstrate the viability and

11   effectiveness of the interference criteria.

12   Now we're on the last slide, slide

13   eight - the recommendations on future work.

14   You'll see this first bullet and it's a little

15   - we're having - we had some struggle with

16   this, this notion in the context of a national

17   effort.

18   To explore protections on analyses

19   and methods, basically to refine the analysis

20   methodologies in terms of protection criteria,

21   the use of clutter, the use of off-axis as

22   opposed to main beam antenna gain and the time

1   component of operation.

2   This is the one area where there

3   was a lot of discussion. A lot of it's

4   semantics but a lot of it really detailed.

5   And where we ended up was DoD wanted to make

6   sure that whatever is done here gets

7   nationalized.

8   But the idea is that, you know,

9   this is - these are equities that operate in

10   areas where there may be other equities and so

11   they don't want to focus this type of an

12   effort on just TRR, JTRS or - well, TRRs and

13   JTRS.

14   So that's what this means. You'll

15   see it and I think it was either in Rick's

16   deck or the deck first working group - Tom's

17   deck.

18   MEMBER KAHN: Yes, this is the

19   same issue we saw in the working group quite

20   a bit.

21   MEMBER GIBSON: Yes. So that's

22   what this is all about, to just to know what

1   that means. The other issue was the concept

2   of study the following.

3   The idea here and this is part of

4   what's being - what had been discussed and I

5   think it's still being discussed in the

6   technical working group which was formed out

7   of 5 but which actually had an overlap into 4

8   as it relates to some of these things is that

9   some of this stuff is ongoing.

10   And, in fact, we're still working

11   on determining the impacts of clutter and how

12   to apply that in the modeling. Also, the

13   protection criteria and how to use the

14   protection criteria that might be a little bit

15   different than I over N.

16   And then these antenna effects -

17   you know, for these equities you're talking

18   about directional antennas and so is there a

19   way to do an analysis where you can take

20   advantage of the antenna pointing so you have

21   some off-axis discrimination.

22   So there's a lot of work that

1   needs to be done to study this. Some of it's

2   being done on the TAC - not the TAC, the

3   technical working group, not the TAC. Strike

4   that.

5   In the technical working group but

6   we're still, we're kind of - we're moving

7   slowly in the technical working group and

8   we're hopeful that some of that work will be

9   overlaid into this.

10   The second bullet - the

11   recommended future work is as you'll see in

12   the background we only ran four sites for the

13   TRRs out of a hundred and three sites out of

14   28 for JTRS.

15   And in order to really be able to

16   know what a carrier is facing at auction they

17   need to know what the size - what these

18   protection zones look like.

19   So the idea behind this bullet is

20   we really should go back and run not just the

21   ones that need long-term access but the ones

22   that need - don't need long-term access but

1   use the parameters that we talked about here

2   in the first bullet.

3   So basically go back and rerun the

4   protection zones with the - with whatever

5   criteria comes out of this first bullet

6   discussion.

7   And finally, which seemed to have

8   been addressed earlier in the meeting, the

9   process to share data, and again, this works

10   across all working groups.

11   But, you know, like I said the

12   issue we had with JTRS was they are FOUO and

13   it was difficult to get any information on

14   them.

15   And to the extent we could have

16   gotten some of the information consistent, for

17   example, like we had with TRRS, the smart

18   people within the group might have been able

19   to find additional methods for sharing and

20   that might have been workable.

21   So but, you know, that bullet's

22   been dealt with, I think, in the discussion we

1   had earlier so we may not even need to have it

2   going forward.

3   And finally, and you don't see it

4   on this, what we have - what we got as a way

5   of update was there are statewide assignments

6   for TRRs and in the original data we got there

7   were two states.

8   In the updated data there are ten

9   states - actually, now a total of 12 and a

10 total of 38 plus five is 43 locations within

11 states that have TRR assignments for National

12 Guard.

13   So we've got to figure out how to

14 make those work and that was just something

15 that, you know, like I said it's ugly and I

16 didn't get it in time. So that's the bulk of

17 the presentation. So any other questions?

18   CO-CHAIR ROSSTON: Questions?

19 Thank you very much for that. Thank you.

20   Okay. I think we're going to move

21 on to Working Group Five and Jennifer and

22 Bryan.

1   MEMBER WARREN: We'll just see. I

2   feel challenged there. So we'll be presenting

3   on Working Group Five which I think is the

4   most complex group at least in terms of scope.

5   Maybe not in participation but in

6   terms of scope, and so because of the number

7   of airborne systems that we looked at, as you

8   all may remember from prior briefs we had to

9   divide up into four sub-working groups to deal

10   with each of the segments of systems.

11   And I'd like to first thank Kevin

12   Kahn, Mark Gibson and Tom Dombrowsky because

13   while Bryan and I were the liaisons, this team

14   collectively worked to make sure that we had

15   coverage at least at most if not all of the

16   sub-working group meetings as opposed to just

17   going to one working group meeting.

18   So I really want to appreciate

19   that and those that did double duty as well

20   because I know Tom was a liaison as Mark to

21   others.

22   With that backdrop, what you have

1 before you is really a preview of what is to

2 be the next step, which is a final report.

3 This is based on the sub-working group's

4 report to the full Working Group Five.

5   So we are still in the process of

6 pulling together the overarching report. It

7 is - we have a defined process within the

8 Working Group Five that was agreed to and, you

9 know, as with everything when you see it

10 integrated in all there are further comments

11 that come out that things need to be

12 corrected, assumptions need to be further

13 discussed. So we're in that process right

14 now.

15   So we've been very specific about

16 saying this is the draft report based on the

17 current sub-working group's report's

18 recommendations.

19   The sub-working groups took an

20 approach based on an approach agreed at the

21 full Working Group Five level which was to do

22 an interference analysis in both directions,

1   the government to LTE and the LTE to the

2   government systems, and then to as preliminary

3   approach determine the separation distances

4   that were necessary.

5   I have to say that in a couple of

6   overarching comments that came out that - just

7   to share from a maybe lessons learned is that

8   where they saw greater progress was perhaps

9   where they were in smaller sub-working groups

10   and where they were really technical working

11   groups.

12   That was some comments we got back

13   through the sub-working group reports. And

14   though this may be addressed by what Teri

15   shared with us with the NDAs, an overarching

16   constraint with going beyond where the sub-

17   working group recommendations go was the, you

18   know, inability to publicly release data yet

19   in a way that was legally tenable for the

20   department.

21   So with that backdrop, we wanted

22   to just walk through where the different sub-

1 working groups are right now and then I can

2 take questions. Bryan and I and the team can

3 take questions on them if you don't mind

4 approaching it that way.

5   So an overall conclusion that

6 you'll see repeated, quite frankly, through

7 the sub-working groups is that sharing is not

8 feasible, again, based on the assumptions that

9 go into the working groups, the sub-working

10 groups.

11   So when we look at feasibility

12 between AMT and LTE, there was an agreement

13 basically because of the separation distances

14 required that the top 100 markets would not be

15 really viable for LTE deployment.

16   For example, protection distances

17 for LTE from AMT airborne transmitters were

18 going to be greater than 560 kilometers.

19   So I know that seems like a stark

20 conclusion when I first said it but when you

21 hear the distances I think you can appreciate

22 why they are where they are. That's about the

1   only conclusion that's agreed in that group.

2   There are a lot of commercial

3   wireless industry views versus government

4   views but that was, I believe, agreed.

5   As I said before -

6   MEMBER POVELITES: Jennifer? Carl

7   Povelites. I was encouraged in Working Group

8   Four that they did look at the sub-bands 1755

9   to 1780 with AMT and the others in Working

10   Group Five. Is that conclusion based on the

11   entire band or is it based on looking at any

12   sub-band within that?

13   MEMBER WARREN: Well, for the sub-

14   working group AMT it's on the whole band, as

15   I recall. A different sub-working group

16   looked at it in the sub part.

17   So if I can - you'll see each

18   working group approached it differently -

19   well, had different conclusions based on the

20   type of the operations. Sorry.

21   CO-CHAIR ROSSTON: This was, I

22   guess, the compression. There was no - AMT

1   can't be compressed, obviously?

2   MEMBER WARREN: That was not an

3   option here.

4   CO-CHAIR ROSSTON: That wasn't?

5   Okay.

6   MEMBER WARREN: It comes up in

7   other sub-working groups as an option,

8   compression.

9   CO-CHAIR ROSSTON: So it was not

10   considered as an option or not an option?

11   MEMBER WARREN: It wasn't an

12   option, I thought, based on the information

13   provided for the technical mission and

14   operations or training operations.

15   MEMBER POVELITES: Was relocation

16   looked at?

17   MEMBER WARREN: Relocation was not

18   an option that was looked at either there. Do

19   you want to add to that, Tom?

20   MEMBER DOMBROWSKY: Yes. This is

21   Tom Dombrowsky. All the stuff from each of

22   these sub-working groups is very tentative at

1   this point would be my - the overarching

2   feedback that we'll see when we get the full

3   report is going to be - we really couldn't

4   reach a lot of conclusions because there

5   wasn't data sharing going on due to the legal

6   and national security concerns.

7   So all this is very preliminary.

8   I would say in general this was frequency

9   agnostic type of activities. There was not

10   really a look at segmenting the band or not

11   segmenting the band in any of the working

12   groups.

13   It was really okay, if you have

14   AMT operating, you have LTE operating, what

15   are the protection distance looking like and

16   we couldn't get into sort of what kind of

17   frequencies people were using, what kind of

18   time they were using, things of that nature so

19   the next level of analysis.

20   So I would say any of these right

21   now are very tentative until you can actually

22   do that next level of drill down for any of

1   these - any of these analyses.

2   MEMBER WARREN: Except I would say

3   PGM or one of them did look at compression.

4   I mean, we do have some inputs on compression,

5   though I agree and that's what I was trying to

6   say earlier was that this is based - unless

7   the Working Group Five assumptions change,

8   which will be based - which would be based on

9   additional data, these were the conclusions

10   that they have - their preliminary analysis

11   has reached. Kevin?

12   MEMBER KAHN: Yes. One of the

13   things I was a little disappointed in as this

14   process went through was that it seemed to me

15   that it would have been useful to distinguish

16   between in the - particularly in the aerial,

17   the airborne systems, between what I'd call

18   training and telemetry systems that are in

19   fact specifically U.S. territorially based,

20   which - for which the analysis is, you know,

21   there are systems that don't operate other

22   places and so they're pretty unique in some -

1   in some regard at least from operational

2   weapons-oriented type of systems.

3   I don't mean weapons specifically

4   but systems that are deployable. You know,

5   because for some of the conclusions in here at

6   one level for the deployable systems, while I

7   understand the worst case analysis that led to

8   the conclusions, the conclusions are pretty

9   silly, quite honestly, in the sense that these

10   are bands that are in use elsewhere in the

11   world with, you know, at least as much

12   potential to create problems in both

13   directions and they are presumably not or we

14   have other problems.

15   And I just think it would have

16   been - it may well be that because the U.S.

17   telemetry-based systems in fact are a problem

18   and cannot - you know, cannot share

19   legitimately and are unique to the U.S.

20   situation territorially that that's enough to

21   reach conclusions across the board.

22   But there are other systems that

1   are in here like the small UAS that you'll

2   come to in a moment and the others where these

3   are systems that are known to have to deploy

4   to other parts of the world and operate

5   successfully in the presence of other activity

6   in those bands and yet the same kind of

7   conclusions are written here.

8   And the fact that we did not -

9   were not able to come to a distinction between

10   those types of situations just struck me as a

11   little bit ridiculous, personally. But that's

12   just my personal bullshit detector.

13   CO-CHAIR ROSSTON: Dennis, you

14   want to jump in?

15   MEMBER ROBERSON: Yes. I guess

16   this begs the question of given that we're

17   lacking data the question of how valuable the

18   additional input that just came out in the

19   first discussion might be to this working

20   group.

21   It seems like it would be

22   extremely valuable and you're nodding your

1 head so that's point one. The second one is

2 really reflecting on Tom's point of the

3 criticality of the 25 lower megahertz.

4   I don't know whether that was

5 communicated to the working group or not but

6 I would presume that it was. I know you're

7 reaction to it indicates that.

8   MEMBER WARREN: Yes.

9   MEMBER ROBERSON: So given that,

10 it's a bit surprising that there wasn't at

11 least some consideration given to that

12 impression in each of the sub-working groups.

13 Would you comment on that?

14   MEMBER WARREN: Sure. And Bryan,

15 feel free as well. There was quite a

16 considerable discussion of this both by all

17 participants as it was repeatedly raised at

18 sub-working group and working group levels by

19 a lot of different folks.

20   To paraphrase the discussion, I

21 think it was and also preceded what I've

22 understood from Tom the commitment not to go

1   after that upper portion was that it's just

2   moving off the inevitable then if this is the

3   next bite.

4   So we really need to look at it in

5   its entirety and also the impacts from auction

6   revenues, how do you - the department, as I

7   understood it, was very concerned with the

8   fact that based on the information for these

9   analyses that there would have to be two

10   auctions, two - just a constant stream of

11   uncertainty and disruption and questionable

12   money flow, et cetera.

13   And they were very reluctant to

14   engage in looking at the 25 megahertz when it

15   really was a whole package that was being

16   discussed and worried about.

17   Now, I don't know how what, you

18   know, Tom and T-Mobile and AT&T and Verizon's

19   comments and commitments may change that

20   comfort level. I can't speak to that. We

21   didn't discuss them.

22   MEMBER SUGRUE: This is Tom

1   Sugrue. I hope so, and also on the revenues

2   at least in the foreseeable future 90 percent

3   of the values in that lower 25, I mean, you

4   know, a lot of you know Neville Ray and he was

5   industry and he would say, "Well, even if you

6   gave it to me I'm not sure what I'd do with it

7   right now."

8   It's not standardized for any type

9   of use we use it for around the globe. We'd

10   find something to do with it, I'm sure.

11   But the point is it's not -

12   whereas the lower 25, of course, is used, as

13   people have pointed out, around the globe.

14   The equipment is right there.

15   A lot of the equipment in our

16   network actually works on that band now. We

17   just don't use it, you know, because it's made

18   to global standards.

19   So it's also the case, as I

20   understand it, that one thing - and you

21   alluded to it, Jennifer, that bedeviled this

22   group has bedeviled the other groups but

1   perhaps more so here because the types of uses

2   is, you know, lack of availability of data and

3   worst case scenario analysis.

4   And you combine those two with an

5   airborne system and you're going to get

6   results that look like this.

7   So this is really one where it's

8   very important to have some better information

9   because otherwise we are where that is, right.

10   MEMBER WARREN: Yes. So moving -

11   just the last point here and the reason it

12   only says identify possible future analysis is

13   because there was a lot of commonality, not

14   complete commonality but commonality among the

15   four sub-working groups as to recommended

16   areas for a possible future analysis.

17   So that's on the last chart to

18   look at in its entirety rather than sub-

19   working group by sub-working group.

20   I will say a couple of other

21   issues that -- well, they'll be flagged in the

22   draft report in July, which is our time frame

1   for the next one.

2   Moving on to small unmanned aerial

3   systems, again, based on the preliminary

4   analysis the sharing, again, does not appear

5   feasible, again, because of the large

6   separation distance requirements rendering the

7   top 100 markets undesirable.

8   In this case in the small UAS

9   group industry expressed a view that they

10   wanted to have captured was that it really -

11   this conclusion really was due to the

12   insufficiency of the publicly releasable data.

13   But when you look at what - based

14   on the data that was released, what the

15   protection distances are as in AMT you're

16   looking at fairly large protections that

17   consist of 300 kilometers and 285 kilometers

18   depending upon the direction.

19   MS. TAKAI: Can I just make one

20   comment?

21   CO-CHAIR ROSSTON: Sure.

22   MS. TAKAI: Okay. I didn't pipe

1   up before. I wasn't sure. I was just asking

2   Karl. Let me just go back to the question of

3   the compressions, right, and why, you know,

4   the DoD folks were not looking at compression.

5   We actually did not tell - I mean,

6   we effectively said to the DoD guys don't look

7   at compression because we are not clear that

8   compression is an option that's on the table,

9   okay.

10   I mean, the way that we looked at

11   it was that it was either the - that, again,

12   we were looking at the whole band and that it

13   was initially potentially 1755 to 1780 but

14   that that would then be followed by 1780 to

15   1850, just to be clear.

16   So we didn't look at those as

17   independent options. So if you got a reaction

18   from the DOT folks that said well, look at

19   compression and they said to you well, no,

20   we're not looking at compression, that was

21   because from a total DoD perspective we said

22   we're looking at either, you know, 1755 to

1   1780 and we don't even know if that's what

2   we're looking at but we made an assumption of

3   that, or we're looking at 1755 to 1850.

4   Now, you know, we have had some

5   just kind of brainstorming sessions around

6   well, you know, what if in fact we were faced

7   with compression and compression was the right

8   thing to do.

9   We did take a look and parse it

10   out kind of system by system and there are

11   some different options.

12   Now, there are some that still

13   won't work even in a compression scenario,

14   quite frankly.

15   But I just wanted to clarify that

16   we just didn't look at it as an option and,

17   again, back to the point around - I mean, I'm

18   not saying the DoD folks should necessarily

19   say, give me more money to do another study.

20   But, you know, we are trying to

21   work sort of within a limited number of people

22   working. So it's not that we're not willing

1   to explore additional options as the CSMAC

2   work continues.

3   We're just trying to figure out

4   how much work is to get to one set of

5   conclusions and then we decide what the next

6   set of work is, if you follow me.

7   So we're prepared to continue with

8   the CSMAC work. It's just you can do an -

9   sort of an infinite number of what-if

10   scenarios and we're just trying to figure out

11   what's the right process to get to the right

12   what-if scenario so we're spending our time on

13   those that are most beneficial.

14   So, again, I just don't want to

15   leave the impression that, number one, you

16   know, we did deliberately not look at

17   compression because we thought that those were

18   the parameters. At least, that was the

19   parameters I set for the DoD folks, right.

20   I mean, Tom, we didn't take your

21   option and say this is an option that we want

22   you to explore. Now, maybe that was our

1   misunderstanding but, you know, it is the way

2   that we looked at it.

3   And then the second thing is, I

4   think, you know, we're prepared to do

5   additional analyses. We'd just like to do it

6   as a directional thing that's decided by the

7   CSMAC working with us as opposed to sort of

8   well, let's try this, let's try this - you

9   know, kind of let's try this.

10   MEMBER WARREN: Thank you. That's

11   helpful.

12   MEMBER SUGRUE: If I could - I

13   mean, I think we really should focus on that

14   and I understand - on, sorry, compression and

15   the lower 25 first.

16   For some of the reasons I said

17   initially, you know, we have - the time to

18   resolve the lower 25 is measured in months.

19   The time to resolve the upper 70 is measured

20   in years.

21   And those issues are complex and

22   all but I'm hoping by - we think and we've -

1   you know, and Teri, you and I have probably

2   put more staff time into this than anyone else

3   around the table and all and we're a little

4   short ourselves.

5   So we don't have the biggest

6   teams. But so we've looked at it very

7   seriously and we think that's doable and a

8   focused discussion on that would really, I

9   think, pay great dividends potentially.

10   If we could free up that 25 that

11   would be, you know, the biggest breakthrough

12   in terms of relationship between industry and

13   government and this whole process would just

14   get a shot in the arm as to how we can go

15   forward.

16   The credibility of the

17   administration and the White House - I mean,

18   I'm just trying to put a little political sort

19   of aura about it too because we live in that

20   world.

21   But it would be - there would be a

22   dynamic, I think, that would take over this

1   process that would be worth its weight in gold

2   as well.

3   MEMBER OBUCHOWSKI: This is

4   Janice. Thanks, Tom, and I think the aspect

5   of your proposal that said we're taking less

6   of the band off the table for ten years was

7   also a breakthrough because as you know as of

8   February the entire band was advertised on the

9   CTIA band website as being sought after.

10   So, you know, this has been a bit

11   of a moving target and, you know, I think that

12   statement - ten years is a long time but not

13   really.

14   You know, I'm the old lady of

15   spectrum here and the last - the AMS - one

16   auction was launched before 9/11. It's kind

17   of hard to believe that that was ten years ago

18   and more.

19   If this really is something that

20   the Pentagon and other federal users can rely

21   on for ten years and that the issue doesn't

22   get resumed for dialogue I think that is a

1   breakthrough.

2   But I don't think they have the

3   confidence level based on what the industry

4   was saying that that was the case.

5   MEMBER SUGRUE: This is Tom again.

6   I would add CTIA signed that letter. I didn't

7   mention them but Steve Largent signed that as

8   well, I believe.

9   MEMBER OBUCHOWSKI: Yes. Well,

10   that is the breakthrough.

11   MEMBER SUGRUE: Yes, okay. Okay.

12   I just wanted to clarify that.

13   MEMBER OBUCHOWSKI: It just kind

14   of was a change at heart. You know, it

15   happened after this process was launched - I

16   mean, months after it was launched and back in

17   February that was not the official position of

18   CTIA.

19   MEMBER SUGRUE: Yes. I mean, I'm

20   sorry. And my point is I'm going to go back

21   and say how come you guys weren't doing this

22   earlier. Now that we're where we are we heard

1   you and we tried to be responsive to it. So

2   anyway -

3   CO-CHAIR ROSSTON: I'm sorry,

4   Jennifer. I've got one more.

5   MR. NEBBIA: Just I guess the big

6   question we have about that, and I appreciate

7   that input, we were asked to find 500

8   megahertz over ten years.

9   So when somebody refers to we're

10   not going to implement or get access to the

11   system for ten years it doesn't - it doesn't

12   sound much different because actually to do it

13   at that ten-year point we got to start the

14   work now.

15   So it doesn't really sound like

16   you're - in doing that you're really offering

17   something completely - you know, I appreciate

18   the promise.

19   But it's sounding a little bit

20   like the promise we got the last time around

21   that they weren't going to come after the 1755

22   and above spectrum.

1   So I'm not sure that the ten years

2   actually buys us and we're just trying to, you

3   know, keep the understanding clear and even

4   it's - I think it was a nice gesture but it

5   doesn't appear to really commit us to more and

6   more security than we have right now.

7   We're already looking toward that

8   ten-year point and we've got to start working

9   now to get there so -

10   MEMBER SUGRUE: Can I revoke

11   Karl's award? I just want to -

12   (Laughter.)

13   Let me just respond quickly. I

14   don't want to take more of Jennifer's time.

15   I realize we're over time.

16   What we were reacting to was

17   consistent themes and we heard this - I'm not

18   saying this in any sort of accusatory way.

19   This is what we heard.

20   The narrative was you guys said

21   this before and you've come back very quickly.

22   You know, not ten years - you come back the

1   next year and immediately and you say, you

2   know, no sooner was that auction done on 1710

3   to 55 that you were back asking for that other

4   spectrum.

5   We were back. I don't believe we

6   promised anything along the lines you

7   suggested. But who cares at this point?

8   That's ancient history.

9   So we were - what the ten years is

10   saying okay, we hear you - you were going on

11   the record at the CTO level. This isn't just

12   some Washington guys who will say anything,

13   you know.

14   A senior officer in the company,

15   which I hope has some credibility with the

16   group, they take what they say very seriously.

17   So that's what it is, Karl. I

18   realize the process may take an extended

19   period of time. I also thought you were

20   getting at can we count this 70 megahertz

21   towards the 500 because it's a counting

22   exercise and we're fine with that too if

1   that's - because we'll be working on it.

2   And I would suggest this isn't -

3   we're also not suggesting we take the 70 and

4   put it in, you know, the back room in the dark

5   room someplace but that we use that interim

6   period to sort of look and see what's possible

7   and how it can be done.

8   But that we wouldn't say okay,

9   give it to us sooner than ten years. So

10   that's - you know what I'm trying to say?

11   MEMBER WARREN: Yes. Oh, sorry.

12   CO-CHAIR ROSSTON: Okay. Can we

13   wait until after - let Jennifer finish and

14   I'll make sure you get recognized first?

15   ASST. SEC. STRICKLING: I have an

16   announcement to make. No.

17   (Laughter.)

18   CO-CHAIR ROSSTON: I think we're -

19   ASST. SEC. STRICKLING: I don't

20   want to extend this debate much longer but I

21   do want to have the last word. Getting us

22   back to Karl's point, you know, we have this

1   obligation to find 500 megahertz.

2   If we - for anybody around this

3   table to think that getting 1755 to 1780 done

4   in isolation, solves our nation's spectrum

5   needs we're all kidding ourselves.

6   I think it's also the fact that

7   what we tried to put in motion here and I

8   think it's largely been successful is to get

9   people thinking about spectrum differently

10   than they have before because before this it

11   was all you got to clear it for us so we can

12   have exclusive use.

13   We're finally having the debate

14   about sharing and the thing that - and maybe

15   now is an appropriate time to figure out how

16   we meet the immediate needs.

17   But it has to be in the context of

18   a plan for all 95 megahertz. It has to be in

19   the context of how are we going to solve these

20   problems for the next five to 15, 30 years,

21   which requires us to really confront how do we

22   work together with each other, how do we solve

1   information sharing, how do we create the

2   rules of engagement for sharing of the

3   spectrum.

4   And this has been a terrific first

5   effort in that regard and we can't just kick

6   the can down the road and say okay, well, it's

7   not working - we've got these immediate needs

8   and now we have to go back and focus on doing

9   it the old fashioned way we've done it.

10   So somehow we have to keep

11   building on what we're trying to put in place

12   here because it's the way we're going to have

13   to do this stuff going forward.

14   We're going to have to solve these

15   problems. So I understand the industry's

16   imperatives here. But, frankly, the ten-year

17   promise really - as Karl said, it's not

18   meaningful to us and it's certainly not

19   meaningful to the Department of Defense

20   because it avoids the issues we have to be

21   dealing with that we've tried to be dealing

22   with through these working groups for the last

1   year. So -

2   MEMBER OBUCHOWSKI: You go, Larry,

3   with CTIA and see you in 20 years.

4   MEMBER WARREN: Okay. So for

5   ACTS, the Air Combat Training System, you

6   know, what we've done is obviously specify the

7   distances that would be necessary to have

8   everybody understand why, again, sharing based

9   on the current assumptions is not feasible for

10   this system either.

11   But as I said, we will be getting

12   to a chart that talks about, you know, some

13   optimism.

14   The last chart here on the fourth

15   working group is the precision-guided

16   munitions one and other miscellaneous airborne

17   systems and this was really, I think, the

18   hardest in some ways just because of the

19   vastness of the systems being analyzed.

20   So with the sites identified and

21   the distances provided, not surprisingly we've

22   said that sharing is not feasible.

1   However, in this case the majority

2   of the systems in terms of numbers of systems

3   indicated that relocation to comparable

4   spectrum could be an approach.

5   Now, talking about comparable

6   spectrum has been very important to the

7   department because it's not we'll move, oh,

8   and then later we'll figure out where but

9   we'll move to a comparable spectrum.

10   It's a single sentence, not two

11   clauses. So the industry and government in

12   this group has put forward identifying what

13   bands, specific bands in fact, that could be

14   looked at as comparable spectrum with a number

15   of caveats associated with them, recognizing

16   that the bands that are identified are

17   congested, would require a change to the table

18   of allocation and, you know, we also would

19   want to put a caveat in there that, you know,

20   the stakeholders in those bands have not been

21   necessarily part of this dialogue to make

22   their sharing requirements and issues

1 understood as well.

2   With that said, for the two bands

3 in particular for those systems would be 2025

4 to 2110 and 1435 to 1525 megahertz.

5   I believe these were also in the

6 NTIA report. But the group is putting those

7 forward as what I would call bands per study,

8 primary study as potential locations.

9   With respect to JTRS AMF, which is

10 - yes, Dave? Sorry, I should have looked down

11 there.

12   MEMBER DONOVAN: Why don't you

13 finish, Jennifer, and then we'll go back.

14   MEMBER WARREN: Okay. Thank you.

15 With respect to JTRS AMF, which is the

16 airborne part of JTRS as opposed to what Mark

17 was discussing in Working Group Four, there

18 they took a little bit different approach

19 which was but for selected priority sites for

20 JTRS operations the rest of the JTRS AMF used

21 to be compacted or compressed into the 1780 to

22 1850 band.

1   However, there were some key sites

2   that would have to be across the entire band.

3   And then finally, with respect to TTNT, except

4   for the Navy version, I think this just covers

5   Army and Marine - I have it Army and, I think,

6   Marine - the entire - the DoD's priority sides

7   would have to be protected across the entire

8   band.

9   There would be no compression here

10   for these sites. Now, that's kind of a dark

11   view. As I've said, you know, no sharing is

12   feasible.

13   However, as a reminder, all four

14   sub-working groups identify areas for

15   promising future study and what we've done on

16   the last page is really try to capture those

17   areas.

18   The first two are time-based and

19   geographic-based sharing. In the context of

20   time-based sharing, there were some

21   presentations by the commercial wireless

22   industry vendors that came in to talk about

1   how a license shared access system that's in

2   the process of SC development, as I understand

3   it, or certification, could be used.

4   In the context of a geographic-

5   based sharing approach, that would be looking

6   to prioritize government assignments outside

7   of the top commercial markets of the wireless

8   operators.

9   Another option for study would be

10   off tuning of the LTE base stations so that

11   basically you could avoid direct co-channel

12   operation.

13   A third was notching for given

14   times and the narrower the channels that the

15   government systems were using the easier the

16   notching would be. But, again, an area for

17   promising study.

18   To look at a different approach to

19   the interference threshold rather than

20   identifying the desired signal level, looking

21   - I'm sorry, identifying the desired signal

22   level rather than using the noise floor as an

1   approach.

2   The effects of clutter and terrain

3   - now, the AMT group indicated that they had

4   looked at least at ground-to-ground clutter in

5   their - ground-to-ground terrain issues in

6   some of their studies but air-to-ground had

7   not been with respect to terrain and clutter

8   not at all in any of the sub-working groups.

9   So there's a lot of potential there.

10   And, finally, the UE antenna

11   heights there was a 1.5 meter height used and

12   there was the thought that, you know, if the

13   terrain-dependent losses, propagation losses

14   or the clutter losses that were incorporated

15   into the analysis then there could be the

16   change in the antenna height that could be

17   meaningful in terms of potential sharing.

18   That's what's in - you know, that,

19   I think was in all of the sub-working group

20   reports. So they've identified some really

21   solid areas for potential study but this needs

22   - you know, the decision about where should

1   the study take place, should it be within the

2   CSMAC process, how do we go forward, I don't

3   want to say how should it be funded but how

4   should the resources be brought to bear to

5   work on these and how do you prioritize them

6   on them - what are the potentials to yield the

7   greatest result.

8   I think these are conversations

9   that are still going to take place.

10   MEMBER TRAMONT: And just before

11   we turn to David, I do think that Working

12   Group Five demonstrates the importance of

13   Teri's announcement on a path forward today

14   because I think this is the group that would

15   benefit the most from that information

16   sharing.

17   And we - you know, we have draft

18   sub-working group reports. We have a draft

19   working group report that are now in the

20   process, as Jennifer outlined, to be ready for

21   July.

22   Those aren't going to get done

1   with some alteration with additional

2   information. I mean, those are finished. So

3   there's got to be some sort of new process

4   moving forward.

5   Whether it's, as Jennifer referred

6   to, whether it's inside CSMAC or outside a

7   CSMAC process, the results for our sub-working

8   group I think - or for our working group are

9   particularly missing key data that I think

10   will greatly benefit from that process.

11   So I think it's hard to drive a

12   lot of lasting data from what the work that's

13   already been done with Group Five.

14   MEMBER DOMBROWSKY: Just one other

15   thing to add to that and I think the other

16   thing that's not on here is determining

17   whether even these are the right next step for

18   this Working Group Two because I think, you

19   know, from the industry even with the

20   preliminary information the question of do you

21   put resources towards doing these extra level

22   - are we actually going to go from 300

1   kilometers to 290 kilometers - that needed to

2   do another three months of work to do that.

3   So I think that's something that

4   hasn't been discussed among the full working

5   group yet either. If - you know, while we

6   could do these things would it have enough

7   benefit to actually go down that path. I

8   think that's the other thing to think about.

9   CO-CHAIR ROSSTON: Dave?

10   MEMBER DONOVAN: Yes, thank you

11   very much. But first of all, I want to thank

12   all the sub-groups. I really wasn't on the

13   sub-groups at all but I think one of the

14   questions I have is as I understand this the

15   interference analysis was done with respect to

16   the airborne systems and other systems to LTE,

17   correct?

18   MEMBER WARREN: And LTE.

19   MEMBER DONOVAN: So there was no

20   interference analysis done to potentially

21   those bands where entities may be relocated.

22   MEMBER WARREN: Correct.

1   MEMBER DONOVAN: And unlike

2 Working Group Four, which believed making

3 specific recommendations were beyond the scope

4 in this working group, those recommendations

5 I believe have been or are being made,

6 correct?

7   MEMBER WARREN: Do you want to

8 comment on -

9   MEMBER GIBSON: Well, yes. The -

10 let me comment from 4. The recommendations

11 were not about where they should locate any

12 different than what were in the report.

13   So all we did was to say take what

14 you put in the report and any information that

15 we got out of that and work on the relocation.

16   So we didn't make any

17 recommendations about where they should go at

18 all in 4. Is that clear?

19   MEMBER DONOVAN: Right. So you

20 didn't go beyond the NTIA report?

21   MEMBER GIBSON: Right.

22   MEMBER DONOVAN: All right. Which

1   itself says look at numbers of things,

2   correct?

3   MEMBER GIBSON: Yes. Exactly.

4   MEMBER DONOVAN: Okay. You have

5   gone - you're different, correct?

6   MEMBER WARREN: Always. But with

7   respect to the sub-working group reports, yes,

8   there are actually recommendations - at least

9   the language is phrased in the sub-working

10   group report to recommend looking at

11   comparable spectrum that's being recommended

12   for looking at is or are those two bands.

13   MEMBER DONOVAN: Okay. And so the

14   -

15   MEMBER WARREN: I went back and

16   double checked a couple of times that that's

17   was how it was drafted. That may change to

18   reflect the caveats more strongly that I put

19   out there. But it -

20   MEMBER DONOVAN: Yes, if I might

21   then, the concept then of comparable spectrum

22   was just based on the spectrum characteristics

1   of a particular band would work for these

2   situations?

3   MEMBER WARREN: I think it was

4   drawn, and I look to Tom but I think it was

5   drawn from the NTIA reports which is the

6   basis.

7   MEMBER DOMBROWSKY: Yes, exactly.

8   It really is - even though the wording is a

9   little bit stronger in 5 it really is

10   following the NTIA report.

11   It's the bands that NTIA and the

12   federal agencies identified as possible

13   comparable spectrum that could be homes for

14   them if they did have to relocate.

15   MEMBER DONOVAN: Okay. If you

16   would just bear with me for a couple - just a

17   couple - I don't - a couple more minutes. I

18   don't want to drag this out too long.

19   I think one of the concerns I have

20   here are obviously the 2025 to 2110 is

21   broadcast EAS spectrum. That's essentially

22   the spectrum that we use for every live local

1   newscast we do on a day in day out basis.

2   It's also enormously congested,

3   particularly during times of emergencies. I'm

4   very sensitive to this because I'm responsible

5   for the New York State EAS system and was very

6   much involved in how that system and the new

7   system responded to Superstorm Sandy.

8   And if I read this analysis

9   correct and admittedly the interference

10   analysis was done to LTE and not EAS, but EAS

11   systems those masts can be as high as 30 feet

12   and you've got in New York City alone about 80

13   news trucks floating around, all hitting

14   receive sites all over various parts of that

15   city.

16   So the potential interference to

17   Defense Department systems is probably greater

18   or vice versa. In any event, that analysis

19   needs to be made.

20   So to suggest that it - that is

21   comparable spectrum without at least

22   conducting an analysis there is - as a matter

1   of procedure, I think, is of concern to me

2   because your protection zones, your

3   interference zones here are so huge that in

4   effect there may - we're not talking about

5   sharing here.

6   I think what you're talking about

7   is moving these systems into the EAS band and

8   essentially moving the EAS band someplace

9   else.

10   We don't know where that is and

11   apparently that's beyond the scope of what

12   we're looking at here. So it's entirely

13   possible if the recommendations are followed

14   that you could have a preclusive effect of on-

15   the-spot news coverage particularly during

16   emergencies across the entire East Coast.

17   The - you know, the tactical link

18   system - I mean, if you did that in New York

19   that essentially may preclude EAS throughout

20   the entire New York DMA. That's 19 million

21   people.

22   If I'm doing a tactical system in

1   Pawtuxet under a TTNT system that takes out

2   EAS in Washington. Now, if the analysis said

3   yes, we can share, we could look at stuff like

4   that, that would be great.

5   And I'll just close with it is

6   that this is not old analog technology. Just

7   a few years ago, we gave up 35 megahertz of

8   spectrum to MSS and that was reallocated for

9   MSS services, which is pretty close in the

10   same band. So maybe that's comparable.

11   And new digital systems were in

12   place and you can talk to - is anyone from

13   Sprint here? Because we worked two or three

14   years to get that relocation done and it was

15   done.

16   So I guess I would ask is that if

17   we go forward with this can we have an

18   analysis done of the impact on where the

19   "comparable spectrum" is? Would that be

20   appropriate?

21   MEMBER TRAMONT: So no. So I just

22   want to - I want to reiterate what Jennifer

1   said. These - what you're reacting to and

2   what we had to react to was this draft of the

3   sub-working group reports.

4   We will - we are in the process of

5   refining those recommendations and they will

6   come to the CSMAC for final review at the next

7   meeting.

8   There is substantial concern among

9   the CSMAC liaisons and others about the nature

10   of this language and I think, as Jennifer also

11   flagged, particularly the dangers associated

12   with recommending specific bands when those

13   constituent groups aren't represented.

14   And, indeed, putting beyond the

15   constituent element there just hasn't been any

16   technical assessment done about whether

17   sharing is possible, what it would look like,

18   what have you.

19   So I think the Working Group Four

20   report is a probably more refined approach

21   that will probably be ultimately a little bit

22   closer to where we end up.

1   But there is sensitivity to what

2   you flagged and I think we'll all be reacting

3   to that as we review the drafts going to the

4   July meeting.

5   MEMBER DONOVAN: And since some of

6   it is for sniper spectrum I want to make sure

7   the red dot is not on any of us.

8   MEMBER OBUCHOWSKI: You raised an

9   important point about comparable spectrum,

10   but, of course, it is statutory that

11   comparable spectrum be identified if there is

12   going to be relocations.

13   And I think one of the sore spots

14   of this process, frankly, is that relocation

15   does not imply consolidation within the narrow

16   band in all cases.

17   So, you know, I don't think I'm

18   talking about any specific band but I do think

19   it behooves the FCC as an esteemed partner in

20   this process to begin to think about placing

21   where, if the relocation is required, it can

22   be a partner in the process for federal

1   systems.

2   You know, frankly, I'm tired of

3   hearing data thrown out in the public domain

4   about how much spectrum the Feds use. Sixty

5   percent, 80 percent - I mean, I don't where

6   these numbers are coming from but they're not

7   true.

8   And as our national security

9   depends on this, you know, it is statutory

10   that that spectrum be identified and it may

11   well be that this isn't the perfect place but

12   it does behoove the FCC and the commercial

13   growth to think about this seriously.

14   MEMBER DONOVAN: Janice, I fully

15   agree with you. I think one of the concerns

16   that - because I think this is a national

17   security concern particularly in any event

18   whether it's natural or manmade is that the

19   only alternatives that we have right now are

20   bonded cellular systems which rely basically

21   on the underlying cellular system.

22   And as we found in New York, that

1   is problematic at least for the near future.

2   I have no idea how all those issues are going

3   to work themselves out.

4   So the only way you can get a

5   camera in front of a public safety official

6   and get that information out to people during

7   an emergency is through the two gigahertz

8   band. That's what we ended up using.

9   So it's caution and I'm just

10   requesting some in-depth analysis before we

11   start identifying landing purchase.

12   MEMBER WARREN: So - I'm sorry.

13   Excuse me.

14   CO-CHAIR ROSSTON: So I recognize

15   Kevin Kahn and then go back to Jennifer, okay?

16   MEMBER KAHN: Okay. Kevin Kahn.

17   Just one thing that Jennifer touched kind of

18   in passing but I just wanted to emphasize it

19   because it jumped out at me listening to the

20   Work Group 5 discussions was that there is -

21   there are, I think, some real advanced sharing

22   techniques that are not possible today but are

1   certainly worthy of a lot of serious study.

2   You know, the cellular guys were

3   observing in some of their presentations that

4   they could probably vacate channels in times

5   measured between milliseconds and tens of

6   seconds, worst case.

7   And at the same time the DoD

8   people when asked, you know, how do you

9   schedule use of certain channels were saying,

10   well, you know, we schedule maybe as soon as

11   tomorrow, you know, which sort of suggests

12   that somewhere between those there's actually

13   ways to react to stuff.

14   My concern is that those kinds of

15   sharing schemes are very difficult to even

16   discuss today because they cross so many

17   boundaries.

18   They cross the NTIA and the FCC,

19   they cross the government - you know, the DoD

20   and the commercial operators, and they're

21   going to require a lot of work in, if not

22   standards, at least agreements on how

1   notifications happened, what the channels are

2   by which these things occur.

3   You know, can they occur without

4   compromising security issues. You know, I

5   mean, if it's just a training mission maybe

6   that's easy. If it's something else maybe

7   it's not.

8   But that kind of work. You know,

9   what I took away from all of this is that, you

10   know, we're probably going to try to wind up

11   doing reload to clear the 25 megahertz because

12   that seems to be only practical but that if

13   you really want to look at a 20-year solution

14   we've got to find ways to utilize whatever

15   those advanced techniques are for sharing.

16   And my concern is coming out of

17   this process there needs to be some way to

18   drive the kinds of discussions that are very,

19   very much more across organizational and

20   across structural than exists today because if

21   you just have that kind of discussion once in

22   a while when something like this gets set up

1   and some industry guys show up in the same

2   room with some, you know, some DoD contract

3   type people you're not going to get the

4   mechanisms in place to be able to even explore

5   what's feasible and what isn't.

6   So I hope coming out of all of

7   this that there's an overarching

8   recommendation that says, you know, whatever

9   we do for the immediate solution, and

10   hopefully Tom gets some of the spectrum he's

11   talking about, that we get mechanisms in place

12   that will allow the government and industry -

13   all the government and, you know, the FCC side

14   and the NTIA side and industry, and the

15   standards bodies to actually find ways to work

16   toward having some of these structures that

17   are going to allow much more advanced kinds of

18   sharing techniques.

19   Because in the long run, I think

20   those are your only real solution paths over,

21   you know, measured in decades. But they're

22   not going to happen unless we can start down

1   that road.

2   MEMBER OBUCHOWSKI: I think the

3   one thing you need to know though is that

4   imperfect as this process has been and

5   emotional as we all can be about our different

6   equities, this has been the most fulsome

7   discussion of sharing that has happened in the

8   public domain.

9   So while we can all be self-

10   critical - I surely can be - my last note on

11   this is I just want to thank everybody because

12   I think we did embark on that discussion.

13   There, obviously, are differences

14   of opinion between folks that are interested

15   in unlicensed and sites that want clear

16   spectrum.

17   I'm happy that as a result of this

18   the president in his memorandum identified

19   this kind of process as useful going forward.

20   And so I don't want to - I want to

21   compliment all of us for trying to do

22   something that was actually unprecedented and

1   not to be overly self-critical about it.

2   CO-CHAIR ROSSTON: Just one

3   process thing before I let Tom talk is I think

4   we're skipping the break.

5   So feel free to get up and move

6   around but I thought this was important that

7   we continue the discussion. So just I give

8   you warning as to what the agenda is going to

9   be, right, for the rest of the time so you

10   don't count on a break.

11   MEMBER DOMBROWSKY: And then you

12   give the microphone to Tom Dombrowsky to say

13   I'm the one stopping the break.

14   CO-CHAIR ROSSTON: Yes, exactly.

15   MEMBER DOMBROWSKY: Thank you very

16   much.

17   CO-CHAIR ROSSTON: We do want to

18   tell you we'll wrap this up in a couple more

19   minutes so I'm going to go -

20   MEMBER DOMBROWSKY: All right.

21   I'll try to be - I'll try to be brief and my

22   only point is that we've come to the

1   fundamental problem that we've had all along,

2   which is the comparable spectrum question.

3   Frankly, I don't think - there's

4   no one in the industry that says you don't get

5   comparable spectrum. When we get moved, you

6   get moved, whoever gets moved you share

7   comparable spectrum.

8   I think the issue we have had all

9   along is what spectrum are we talking about.

10   There has not been a desire in the industry

11   side for 1780 to 1850.

12   There's a lot more desire for 2025

13   to 2110. So look at that. We're both looking

14   for the same spectrum impact. The CTIA has

15   filed a petition for a piece of that 2095 to

16   2110 megahertz band.

17   So that's where our fundamental

18   differences of opinion on this sort of effort

19   of where we're planning the next 70 megahertz

20   of spectrum is coming from at some fundamental

21   level.

22   CO-CHAIR ROSSTON: Jennifer, now

1   you can go.

2   MEMBER WARREN: Okay. I just want

3   to try and close this. This has been a very

4   far-ranging conversation but I do think it is

5   illustrative of the conversations that have

6   been happening actually in Working Group Five.

7   And I do want to echo Tom's point.

8   It has been very hard to have the discussion

9   about agreement to relocate or that's the only

10   solution without words that make the whole

11   sentence with the need for comparable spectrum

12   and, you know, a desire to at least, based on

13   the work that went into the NTIA report, which

14   concluded that 2110 to 21 - or sorry, the two

15   gigahertz band would be a good solution and it

16   did recognize.

17   For example, I know Dave won't

18   like this that either, you know, EAS would

19   move or be operating on an NIB basis. So not

20   music to anyone's ears, I'm sure, if they're

21   the incumbent.

22   And then 1435 to 1525 there were

1   alternate bands, I think, that were identified

2   in the NTIA report but they were secondary,

3   not primary, and I believe that's probably why

4   Working Group Five or the sub-working groups

5   at least concluded with the bands that they

6   concluded.

7   But as Tom said, we're working to

8   make sure we caveat it properly and that we

9   recognize that the stakeholders were not

10   included in that discussion and so that it is

11   not taken as a industry CSMAC wide

12   recommendation, if you like. Thank you.

13   CO-CHAIR ROSSTON: Okay. Thank

14   you for that concise report.

15   Okay. Dennis, are you going to

16   take charge on this?

17   MEMBER ROBERSON: Yes. As we do

18   the ping pong I'll take the lead this time and

19   this should be a short and concise report.

20   In fact, I'm sure some of you

21   around the table are asking why is Working

22   Group One reporting out at all because you're

1   already done. Our report has been approved by

2   this body.

3   But I think, perhaps, even in the

4   context of what we've been discussing it's

5   worthwhile going over a few points with

6   Working Group One.

7   As we completed our work initially

8   we did have a couple of caveats that there

9   were potential additional sites that might be

10   considered if you all remember and I'm sure

11   you have this memorized.

12   There were 18 sites in the

13   original report. There were a few more sites

14   that we identified, actually 22. So it was a

15   considerable number of additional sites.

16   Of those - and there was a reason

17   for this. Initially, with the very large

18   protection zones, multiple sites were within

19   those zones and so it was not deemed necessary

20   to separately identify the sites.

21   I think Karl is about to point out

22   so I will for him - those on the line if you

1   could mute your phone that would be helpful to

2   all of us. Thank you.

3   So the sites were identified now

4   that we're reducing the size of the production

5   zones.

6   Of the 22, nine of them were

7   deemed worthy of additional focus because they

8   were sufficiently outside the bounds if they

9   would expand the protection zone. So that's

10   just an update on the process.

11   And part of the reason for

12   identifying that is that as we go along in

13   each of these working groups we can anticipate

14   that there will be new information coming

15   along as we go, either information that was

16   not deemed worthwhile sharing at the first

17   blush or information that simply was omitted

18   for whatever set of reasons.

19   But we have redone the

20   calculations, adjusted - readjusted some of

21   the protection zones, coordination zones and

22   so the impact is roughly, depending on whether

1   you're doing the top hundred or the full

2   nation 10 percent or 8 percent of the

3   population.

4   So that's the - that's the

5   impacted area by the protection zones. Second

6   piece of this is moving the ball even further

7   we have begun work to put together a test plan

8   that would allow us to further inspect and

9   understand.

10   The model gives us one answer. To

11   vet that model on the ground testing was

12   deemed quite desirable. How this might be

13   funded once we've identified how it ought to

14   be done is a whole another question.

15   Access, which land - which earth

16   station should be focused on and so on is part

17   of what the process is going through. But we

18   are continuing that process and hopefully will

19   have the ability to proceed with a test plan

20   and I would suggest that that test plan is

21   consistent with the presidential memorandum.

22   So that fits that one very well.

1   Finally, and probably most

2   importantly, we identified that - the fact

3   that a coordination process would be preferred

4   to an exclusion process which is where we've

5   started and particularly in this case - it

6   doesn't work for all cases but particularly

7   for this case where it's quite predictable

8   with the satellites going over and the fixed

9   earth stations, the coordination notion - time

10   sharing notion was deemed highly desirable and

11   put that forward, put it in the report but

12   didn't really identify in detail how that

13   coordination would take place.

14   So the continuing efforts of the

15   working group are to try to determine the

16   details of how that coordination might

17   optimally work.

18   And so we continue to move forward

19   with the working group even though we've

20   submitted our report and have that box

21   checked.

22   And that is a succinct report, Mr.

1   Chairman.

2   CO-CHAIR ROSSTON: Are there

3   comments or questions for Dennis? Great.

4   Okay. I'm glad you enjoyed the break. Now

5   let's move on to the next steps.

6   MR. NEBBIA: Okay. Looking ahead

7   our next meeting is scheduled for the 24th so

8   we want to encourage each of the working

9   groups - excuse me?

10   PARTICIPANT: Tell them where.

11   MR. NEBBIA: Excuse me?

12   PARTICIPANT: Tell them where.

13   MR. NEBBIA: Oh. Here at - here

14   in July.

15   PARTICIPANT: Not Boulder?

16   MR. NEBBIA: I'm sorry?

17   PARTICIPANT: Not Boulder.

18   MEMBER NEBBIA: Not Boulder - a

19   Boulder meeting. Yes, it's here. So it is

20   important if we're going to be able to come to

21   closure on the outcomes of these working

22   groups.

1   It's important that we get them in

2   time to then circulate them to the members for

3   that meeting. We would really like to be able

4   to close that decision process at that

5   meeting.

6   So please keep them in mind and

7   resist the thought that your new deadline is

8   July 23rd at, you know, 2330 or something.

9   But think in terms of getting them in a couple

10   weeks early.

11   There's always going to be a

12   little slippage. You know, I just know how

13   that works. So please strive toward that. We

14   would love to get this wrapped up in - at the

15   end of July.

16   So we know at that point - excuse

17   me?

18   MEMBER TRAMONT: Just pick a day.

19   CO-CHAIR ROSSTON: We actually

20   have a - we actually have to worry about,

21   like, a registered publication.

22   MEMBER TRAMONT: So pick a date.

1   Just tell us - give us a number. Just -

2   MR. NEBBIA: Actually, I don't

3   think there is a requirement. The requirement

4   is to give you a reasonable amount of time.

5   So we will come up with a - we

6   will come up with a date and send that out to

7   you when we're looking for them.

8   Not that you've followed those

9   dates in the past so and then change your

10   mind. So that's what we're - that's what

11   we're working toward so we can close out those

12   recommendations.

13   I think these recommendations are

14   getting us to the place that I think we could

15   logically have expected this work to get us to

16   to tell us what types of things are very

17   likely to have to be moved.

18   I think as we've seen in the

19   Working Group Five they're focusing on some

20   areas of things that are probably going to

21   have to be moved but also they're identifying

22   for us the cases where they are likely to have

1   to be moved unless we can get down and work

2   out some more detailed solutions to the

3   process and I think that was a necessary step

4   to get through.

5   So in the same way that Working

6   Group One has continued we may find that at

7   the decision point in July that some of these

8   other working groups may continue on this

9   process.

10   On the other hand, we may also be

11   enlightened by the outcome and the discussions

12   between DoD and the companies involved or the

13   people involved in these NDAs that they're

14   going to meet together for a period of time,

15   have some discussions and then feed

16   information back to the group.

17   So I think we are going to need to

18   look at that as it's - as it's coming up.

19   Ultimately, NTIA will be taking the input that

20   we've received here and developing our input

21   as the FCC rulemaking process goes forward,

22   trying to inform them of our views and

1   concerns and so on and, certainly, these

2   questions about comparable spectrum are going

3   to be coming up in that - in that process.

4   But so we do - we do logically

5   expect that there will be some additional work

6   going on after these working groups finish in

7   July.

8   Whether it's DoD, industry

9   discussions that feed back into the working

10   group, whether it's those discussions somehow

11   feed our understanding in a way that we can

12   move forward, but nonetheless, the commission

13   rulemaking process is going to move forward.

14   Our process of establishing transition plans

15   and so on is going to be moving forward and so

16   on.

17   So there may be additional work

18   required as we go forward. I think the work

19   that we've done thus far is going to lead to

20   outcomes that are going to benefit everybody

21   and I think that's important.

22   Obviously, it's tough committing

1   more and more and more effort to it. But

2   we're looking for the best possible outcome we

3   can get here and we appreciate the effort that

4   people put in.

5   Any questions on that before I

6   touch on future work for those who aren't

7   exhausted yet? A few other thoughts?

8   So we did, at the last meeting,

9   begin a discussion of some future ideas and we

10   have listed five of those subjects that have

11   gotten some play recently.

12   The first and second bullets - I

13   think the third bullet, each of those clearly

14   links into the presidential memo recently so

15   then the database concepts, how we might use -

16   you know, do spectrum management via

17   databases when in fact we've got classified or

18   FOUO databases and so on, how me might do

19   that.

20   I think these are all great

21   subjects to look at, and then the last one we

22   had put on the table this idea of how do you

1   pay for spectrum sharing when there's no

2   auctions.

3   In other words, if we introduce

4   unlicensed how are we going to pay for the

5   efforts of going in right now.

6   We're doing work right now on five

7   gigahertz. There's no assumption that there's

8   going to be payment because the law doesn't

9   currently allow for it but what approach might

10   we take there.

11   So we are looking at these as work

12   ahead of us and it seems like at least on our

13   review and discussions the first two might be

14   able to be grouped together, this concept of

15   how do we use general occupancy measurements

16   to get a good picture of how the spectrum is

17   being used.

18   That is, there is a pilot program

19   in the presidential memo, to look at that

20   particularly.

21   Also, this issue of quantification

22   of federal use is in the memo. We deal with

1   lots of different systems. Questions come up

2   as to whether the quantification is a

3   geographic factor of how many people tops that

4   a particular operation covers but also the

5   time factor - how does that fit in there, how

6   to - how do you account for operations to move

7   around to different locations. In fact, they

8   may have a nationwide allowance and they're

9   not linked to a specific place.

10   So we've got some significant work

11   ahead of us on that and would certainly

12   appreciate the help. I think as was discussed

13   earlier, though, in an extremely cryptic

14   manner I think this idea of how can the

15   government use spectrum in non-federal bands

16   that maybe they're not using.

17   That's where, you know, we may end

18   up there, and certainly there's an interest

19   because the government is always looking for

20   places to train.

21   If you can give them greater

22   freedom in the, certainly, the major training

1   areas to use bands that may have been licensed

2   years ago or auctioned years ago that would be

3   a help.

4   So anyway, between now and the

5   next meeting please give these some

6   consideration how we should break them out and

7   what order of priority we should give them.

8   Five has probably quite a bit of

9   work to do, and then the big question is would

10   you be willing to be on one of the groups that

11   looks at this and, even more important, would

12   you be willing to lead the group that looks at

13   each of these - individual questions along the

14   way.

15   So these are the ideas that we've

16   got for future work and, certainly, please

17   consider that over the next month.

18   CO-CHAIR ROSSTON: So I think we

19   also want to make sure that we have some

20   discussion of these topics today and also

21   other ideas that you guys might have as to

22   what we should consider and then sort of to

1   bring them up as ideas today and then move

2   forward at the July meeting to talk about -

3   you know, putting together a specific work

4   plan and other things.

5   So that will be a subject at the

6   July 24th meeting in addition to this. So Rick

7   looks like he's ready to jump out of his seat.

8   MEMBER REASER: Ready - I'm ready

9   to jump out of my seat. It's Rick Reaser. I

10   think it might be good to have another

11   inventory topic again.

12   That seemed to be a highlight in

13   there, and since we were talking about ideas

14   about sharing and stuff like that lately that

15   might be something to consider.

16   The other thing - this one guy

17   told, same as I said, you know, I thought that

18   paying for the cost of spectrum sharing when

19   there's auction I thought that meant something

20   else and I thought it meant this issue that

21   we're sort of hearing from federal agencies,

22   listen, you're draining me dry of blood to

1   support all this stuff.

2   And so there's a lot of work that

3   has nothing to do with getting ready to

4   auction all the stuff we're doing now. The

5   question is is there some way that the federal

6   agencies can get funds to do this stuff now

7   and I just - I think that that's the other

8   issue, I think, that's kind of hitting us.

9   Because early on, you know, when

10 the sequestration hit, there was rumor - it

11 quickly was squelched but oh my God, we can't

12 do anything because there's no money and I

13 think that's - and if you're serious about

14 this, you know, the federal people need to get

15 their paycheck, you know, build-up.

16   So those were my two. I think

17 inventory might be another idea and then the

18 issue of maybe expanding this to, like, how do

19 you pay for stuff in the meantime before

20 there's an auction.

21   CO-CHAIR ROSSTON: Jennifer?

22   MEMBER WARREN: Just something

1   with respect to the next meeting. I think a

2   number of us at least in the Working Group

3   Five were very impressed with one of the

4   technology presentations and perhaps that

5   might be worthwhile because it's down as

6   something that was recommended perhaps for

7   future, you know, to incorporate into future

8   analysis and that's the time-based sharing.

9   The license-shared access - I

10   think Kevin mentioned it as well - it was very

11   impressive what - I'm going to mention one

12   vendor. There may be others, but Nokia

13   Siemens presented and that might be worthwhile

14   for the full CSMAC to see.

15   CO-CHAIR ROSSTON: Dale?

16   MEMBER HATFIELD: I was going just

17   to add to what - I've already made my pitch

18   before on the enforcement issue and I would

19   personally recommend adding something in

20   regarding enforcement.

21   MEMBER OBUCHOWSKI: I would

22   support that. Thanks, Dale.

1   MEMBER HATFIELD: I second that.

2   MEMBER WARREN: I third it.

3   CO-CHAIR ROSSTON: Not surprising

4   that people agree with Dale. Carl?

5   MEMBER POVELITES: I saw that

6   we're now ahead on the agenda.

7   CO-CHAIR ROSSTON: No, we're on

8   time on the agenda. We're in the middle of

9   the discussion we're supposed to be having.

10   MEMBER POVELITES: Yes. I thought

11   I'd take a step back just for my own

12   clarification on what - on the next steps.

13   I know that you have a transition

14   plan that you're required to file by January

15   of 2014, I believe, based on the FCC's letter

16   to you making available the 1755 or 1780 band.

17   So how can we, through the process

18   for final reports and everything, help you all

19   out and maybe concentrating on that band,

20   looking at compression, looking at relocation?

21   Because it seems to me you have a

22   really short amount of time in order to do

1   that and in the interim it may be something

2   that the working groups can at least take on.

3   Maybe it's even looking at the

4   industry framework that the three companies

5   put together. I'm just trying to figure out

6   how we can help you with your - in the next

7   steps.

8   MR. NEBBIA: I think the primary

9   thing is trying to complete the activities

10   that we've been doing.

11   I think there will certainly be

12   discussion here or elsewhere on the roadmap

13   concept and how do we - how do we sort all

14   this out.

15   But I think from my standpoint, I

16   think trying to resolve and improve upon the

17   work that's been done here I think is the

18   immediate crisis.

19   We're going to have to figure out

20   how we move the process forward, comparable

21   spectrum issues, the transition plans and so

22   on.

1   I'm not sure that's something that

2   you're going to be able to actually help us

3   with. But if we can come to better, I think,

4   defined solutions then that gets us into what

5   the commission is going to have to ultimately

6   draft up as here's what we're going to be

7   auctioning. Here's what we're going to be

8   providing. That gets us closer there.

9   MEMBER POVELITES: Would that

10   include then the aggregate effect of all the

11   activity - AMT, JTRS? You know, what's the

12   aggregate effect going to be because that's

13   something we're going to need to know as

14   potential bidders.

15   MR. NEBBIA: Well, I think

16   certainly - I mean, that's true. You're going

17   to be looking at what the final end result is

18   and that end result in any case is going to be

19   a combination of things that stay permanently,

20   things that stay temporarily.

21   There's always a transition.

22   Nobody walks out on day one, and then this -

1   what the sharing arrangements are and then how

2   long people are taking to move out.

3   But so I think that's going to go

4   on in these discussions of various approaches

5   to road maps and I don't think it's going to

6   be only industry that has ideas there.

7   But so at least from my standpoint

8   we would like to see the groups that we have

9   fine tune as best they can these outcomes so

10   that we can take that into these other

11   processes.

12   CO-CHAIR ROSSTON: Kevin, Dennis

13   and then Tom.

14   MEMBER KAHN: Yes, I was going to

15   come back to your list of future topics. I

16   don't know if I'm taking this off the path or

17   on the path.

18   But I was just going to observe

19   that in the context of the comment I made

20   before about advanced sharing techniques, one

21   of the things the FCC TAC has on its plate

22   this go around is the near and dear old topic

1   of COTS and use of commercial off-the-shelf

2   technology and how - et cetera.

3   And while that probably is not

4   applicable to, you know, certainly, the more

5   exotic DoD requirements but for the government

6   as a whole to the extent we could find or

7   encourage systems that can be on common

8   platforms in the future to be on common

9   platforms whether they're government systems

10   or civilian systems and for a lot of, you

11   know, just domestic communication kind of

12   systems you probably can, it seems to me that

13   some of these sharing problems long term for

14   the government and also your notion about, you

15   know, federal spillover into non-federal

16   bands, a lot of those things become a lot

17   easier.

18   And so I wonder whether one of the

19   topics somewhere, you know, kind of queued up

20   - as I say, the FCC is already looking at this

21   for some, you know, I think with an eye mostly

22   toward commercial use of commercial systems -

1   I mean, you know, for quasi-commercial like

2   power systems and things like that.

3   But, you know, is that something

4   that we should be looking at on this side of

5   the house as well with the motivation being

6   that the more common things we can get at

7   least for that set of applications the sharing

8   problems, the flexibility problems get a lot

9   easier, just for your list.

10   MEMBER TRAMONT: Kevin, we did do

11   a - I know, I'm sorry. But we did do a report

12   on commercial adoption of - sorry. We were

13   just going to follow up and update that.

14   Sorry, sorry, sorry.

15   MEMBER KAHN: Yes. I mean, it's

16   just since the FCC is back on this tack again

17   I just figured I'd put it on the table then.

18   CO-CHAIR ROSSTON: Dennis?

19   MEMBER ROBERSON: This is sort of

20   an adjunct to the fourth item, the spectrum

21   management via databases. I think the broader

22   topic that needs to be addressed is the whole

1 notion of data sharing between government and

2 industry.

3   And as just pointed out, it's not

4 just DoD either. There's a lot of other uses

5 of the spectrum that are not DoD uses but that

6 preserve the sensitivity, particularly of - or

7 the security of sensitive data but enables

8 sharing.

9   That's an increasingly important

10 topic and it really does fit very much with

11 the presidential memorandum and the discussion

12 that we had here.

13   But the techniques - how do you

14 sufficiently obfuscate the data that you're

15 not divulging secure information while at the

16 same time providing the necessary information

17 to allow sharing to take place.

18   And I think there are means by

19 which that can be done.

20   MEMBER OBUCHOWSKI: I would

21 absolutely second that. You know, it's -

22 there's so many billions of dollars going into

1   cyber issues in our country and rightfully so.

2   Well, you know, this sharing is

3   just another area of great vulnerability if

4   not done properly. If done properly, of

5   course, it advances us.

6   So I think ways to develop that

7   are well worth funding. So thanks for that

8   suggestion.

9   CO-CHAIR ROSSTON: Okay. Tom?

10   MEMBER SUGRUE: I want to reiterate

11   what Karl said and I hope the process on the

12   most important 25 megahertz, which is on the

13   table right now which is a $15 billion

14   opportunity, I'm afraid we're as a country

15   about to squander if we don't get this right.

16   At least the dialogue can continue

17   past the delivery of the CSMAC reports next

18   month. I don't think, given where we are,

19   we're going to crack the nut completely.

20   I realize everything has to come

21   to an end even as much fun as this is, right?

22   But there is a report in January. I think

1   it's perfectly appropriate for NTIA to

2   continue to engage with stakeholders on both

3   sides of that. That's always been a function

4   NTIA has performed.

5   We sort of welcome the opportunity

6   along, I'm sure, with our colleagues in the

7   industry to have that talk. We have

8   information as well to share on this and I've

9   devoted a lot of work and effort to it.

10   So it's - and then, finally, you

11   know the old saying about don't let, you know,

12   the perfect become the enemy of the good, I

13   mean, I am concerned and focusing on - we're

14   going to have this grand thing and a ten-year

15   plan we're going to let the perfect become the

16   enemy of the very, very, very good, which is

17   a very important, you know, first step to

18   take.

19   And you can't - maybe - you can't

20   just focus on short term but you can't ignore

21   the short term. You know, I mean, in the long

22   term we're all dead and we have an opportunity

1   right here to do something constructive.

2   And my final point is, you know,

3   something I hear about the ten years and the

4   president's - the president say 500 megahertz

5   in ten years and not a day sooner than ten

6   years. That's not what he meant.

7   He meant let's do it within five -

8   in ten years but sooner if possible and that's

9   what the point of our sort of concession on

10   the ten years was. We'll take the outer date

11   and say we won't be pressing for anything

12   sooner.

13   So let's try to work through that

14   constructively and we look forward also to

15   dialogue with our friends in DoD and the other

16   agencies as well.

17   MEMBER ROBERSON: This ten years

18   is actually outside the president's window.

19   Ten years from now is ten years starting a

20   couple years ago.

21   MEMBER SUGRUE: A couple years

22   ago, yes.

1   MEMBER WARREN: So I wanted to go

2   back to possible work areas. I looked at my

3   notes from when Teri presented and she talked

4   about the trusted agent concept. It's on this

5   agenda.

6   And she had a question or two

7   about what could the private sector do but

8   then, you know, was looking for other

9   examples.

10   Is there value that the CSMAC

11   could bring to actually trying to define some

12   recommendations for a trusted agent concept?

13   And I don't mean one a year from now but I

14   mean, you know, on an expedited basis with all

15   the different types of stakeholders that are

16   here and at the other agencies, DoD and

17   others, could come together.

18   We could do a little, you know,

19   tiger team on that and see if we could come up

20   with something, even if it's just a set of

21   options to choose from but that's agreeable to

22   everybody.

1   So I wanted to put that out maybe

2   for an expedited approach. Thank you.

3   CO-CHAIR ROSSTON: Thank you. Are

4   there people on the phone who would like to

5   jump in?

6   MEMBER ALDER: Sure. This is

7   Larry Alder. I just wanted to say I think

8   that this work that you guys have been doing

9   with the 1755 has been great but I - and I'm

10   seconding that it needs to continue and

11   conclude.

12   But I do welcome the opportunity

13   to study some new elements because for some of

14   us it's been hard to participate in all the

15   details of the working group.

16   So I think it would be good to

17   kick off some new elements and one thing that

18   would be important is that we do something

19   that has some tangible value so Karl and the

20   people at the NTIA could help shape some of

21   these things.

22   I mean, for example, one of the

1   areas that I've been interested is the use of

2   these databases to do things like time-based

3   coordination, and we could do something in the

4   abstract on that.

5   But it would be great to, you

6   know, find something that really applies to a

7   particular band or a particular problem if the

8   NTIA wants to solve very near term.

9   CO-CHAIR ROSSTON: Great. Thanks.

10   So there's been a lot of ideas in addition to

11   the - in addition to the five that were listed

12   here.

13   I think it would be really helpful

14   to Karl and his team if you could follow up

15   your ideas with two or three sentences at

16   least about sort of what you think the project

17   should be that - and send those to Karl and me

18   and Bruce to make sure that we get a better

19   idea and a better description of what they are

20   and that the people that we can sort of

21   circulate these ideas among the committees so

22   that we're ready to discuss it in July on

1   that.

2   Great. So we are now dead on time

3   for opportunity for public comment. So we're

4   right on time.

5   So first, I'm going to go - anyone

6   in the room and then I'll come to the phone

7   but anyone in the room who would like to make

8   a public comment? There's opportunity for

9   public comment in the room.

10   Okay. Anybody on the telephone

11   for a public comment?

12   Okay. Great. Before we adjourn

13   let's make sure that everybody is aware that

14   Karl has an award coming up.

15   (Applause.)

16   MR. NEBBIA: I want to personally

17   invite everybody that if you'd like to buy a

18   ticket from FCBA and you may come and enjoy.

19   CO-CHAIR ROSSTON: Great. All

20   right. Meeting adjourned. Thank you.

21   (Whereupon, the above-entitled

22   meeting concluded at 3:42 p.m.)

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C E R T I F I C A T E

This is to certify that the foregoing transcript

In the matter of: Commerce Spectrum Management
                  Advisory Committee Meeting

Before: NTIA

Date: 06-18-13

Place: Washington, DC

was duly recorded and accurately transcribed under
my direction; further, that said transcript is a
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_____
Court Reporter