

UNITED STATES DEPARTMENT OF COMMERCE

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COMMERCE SPECTRUM MANAGEMENT
ADVISORY COMMITTEE (CSMAC)

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MEETING

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THURSDAY

FEBRUARY 21st, 2013

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The CSMAC met in the Koret-Taube Room at Stanford Institute for Economic Policy Research, 366 Galvez Street, Stanford, California, at 9:00 a.m., Greg Rosston and Brian Fontes, Co-Chairs, presiding.

MEMBERS PRESENT:

GREG ROSSTON, Co-Chair

BRIAN FONTES, Co-Chair

DAVID BORTH

MICHAEL CALABRESE

THOMAS DOMBROWSKY, JR.*

MOLLY FELDMAN*

H. MARK GIBSON*

KEVIN C. KAHN

DOUG MCGINNIS*

MARK MCKENRY*

THE HONORABLE JANICE OBUCHOWSKI*

CARL POVELITES

RICK REASER*

CHARLIE RUSH*

DANIEL D. STANCIL*

TOM SUGRUE*

BRYAN TRAMONT*

ALSO PRESENT:

RICH MOSLEY*

KARL B. NEBBIA, Associate Administrator,
Office of Spectrum Management, NTIA

ROBERT L. SIMMEN

JIM SNIDER*

LAWRENCE E. STRICKLING, Assistant Secretary
for Communications and Information, NTIA

BRUCE M. WASHINGTON, Designated Federal
Officer for CSMAC and Chief of Staff,
Office of Spectrum Management, NTIA

*Participating via telephone

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

9:02 a.m.

CO-CHAIR ROSSTON: So welcome. I think what we should -- this is Greg Rosston. And I think probably before we get started with Larry Strickling, we should just go around the table so everyone on the phone can hear the voices. And then I'll do a roll call for the people who may or may not be on the telephone.

So, I'm sorry, Kevin.

DR. KAHN: Kevin Kahn, Intel.

MR. NEBBIA: Karl Nebbia, NTIA.

CO-CHAIR ROSSTON: Greg Rosston, Stanford.

CO-CHAIR FONTES: Brian Fontes, Co-Chair with Greg.

MR. STRICKLING: Larry Strickling, NTIA.

MR. POVELITES: Carl Povelites, AT&T.

MR. CALABRESE: Michael Calabrese,

1 New America Foundation.

2 CO-CHAIR ROSSTON: Okay. I'm
3 going to read off the names of people and if
4 you just say "here" on the phone, I think
5 that's easier than having people say. So
6 David Borth, are you there?

7 (No response.)

8 CO-CHAIR ROSSTON: Okay. Marty
9 Cooper?

10 (No response.)

11 CO-CHAIR ROSSTON: Mark Crosby.

12 (No response.)

13 DR. KAHN: Serious echo there.

14 CO-CHAIR ROSSTON: Tom Dombrowsky.

15 MR. DOMBROWSKY: I'm here.

16 (Telephone interference.)

17 CO-CHAIR ROSSTON: Okay. I think
18 it sounds like we're doing much better now.

19 Okay. Dave Donovan.

20 (No response.)

21 CO-CHAIR ROSSTON: Molly --

22 DR. KAHN: On mute, first to hear

1 now.

2 CO-CHAIR ROSSTON: Can anyone hear
3 us?

4 MS. FELDMAN: Yes. This is Molly.
5 I'm here.

6 CO-CHAIR ROSSTON: Okay. Dave
7 Donovan did not respond.

8 Mark Gibson.

9 MR. GIBSON: I'm here.

10 CO-CHAIR ROSSTON: Dale Hatfield.
11 (No response.)

12 CO-CHAIR ROSSTON: Doug McGinnis.

13 MR. MCGINNIS: I'm here. McGinnis
14 is here.

15 CO-CHAIR ROSSTON: Mark McHenry.

16 DR. MCHENRY: I'm here.

17 CO-CHAIR ROSSTON: Janice
18 Obuchowski.

19 MS. OBUCHOWSKI: I'm here.

20 CO-CHAIR ROSSTON: Robert Pepper.
21 (No response.)

22 CO-CHAIR ROSSTON: Dennis

1 Roberson.

2 (No response.)

3 CO-CHAIR ROSSTON: Charlie Rush.

4 DR. RUSH: I am here in Rosslyn,
5 Virginia.

6 CO-CHAIR ROSSTON: Okay. Dan
7 Stancil.

8 DR. STANCIL: I'm here.

9 CO-CHAIR ROSSTON: Okay. Tom
10 Sugrue.

11 MR. SUGRUE: Yes, I'm here.

12 CO-CHAIR ROSSTON: Brian Tramont.

13 MR. TRAMONT: Here.

14 CO-CHAIR ROSSTON: Jennifer

15 Warren.

16 (No response.)

17 (Telephone interference.)

18 CO-CHAIR ROSSTON: Okay.

19 Jennifer. I think she's not coming.

20 Okay. Did I miss anybody on the
21 committee?

22 MR. REASER: Yes. Rick Reaser.

1 CO-CHAIR ROSSTON: Oh, okay. It
2 said no, track meet, but I guess that was from
3 the last time.

4 MR. REASER: Yes. I'm at a track
5 meet right now.

6 CO-CHAIR ROSSTON: Oh, okay.
7 Anyone else?

8 MR. MOSLEY: Rich Mosley is on.

9 CO-CHAIR ROSSTON: Anyone else on
10 the CSMAC?

11 (No response.)

12 CO-CHAIR ROSSTON: Okay.

13 CO-CHAIR FONTES: One thing, when
14 everyone speaks during the course of the
15 meeting, it would be helpful if they would say
16 their name before they speak, particularly in
17 the phone call environments. It's hard to see
18 who or know who is speaking.

19 CO-CHAIR ROSSTON: Right. And we
20 should probably make sure we try to do that
21 around the table as well.

22 CO-CHAIR FONTES: That was Brian.

1 CO-CHAIR ROSSTON: Yes. So this
2 is good. So we are going to start with
3 opening remarks from Larry Strickling, so.

4 MR. STRICKLING: Well, thank you,
5 Greg. And thank you, Brian. And thanks to
6 those of you who are able to join us today,
7 both here in person and on the phone. It's an
8 important meeting today.

9 We obviously need to keep making
10 progress on the working groups that are taking
11 a hard look at 1695 to 1710, as well as the
12 1755 to 1850 bands of -- and I'm looking
13 forward to hearing the updates. And hopefully
14 we'll have an opportunity to take some final
15 action today on at least one if not two of the
16 committee reports.

17 But that's -- you know, other
18 issues still are coming to the forefront.
19 We've got a very full agenda today, so I hope
20 those of you who are participating remotely
21 can stay with us and be able to participate as
22 fully as you could being here in the room,

1 because we're very anxious to hear your
2 thoughts on some of the newer issues that are
3 emerging that Karl will be getting into in the
4 second half of the meeting.

5 So looking forward to the
6 discussion. And, again, thank you very much
7 to Greg Rosston for hosting today's meeting.
8 And, again, thanks to all of you for continued
9 participation and commitment to this effort.

10 CO-CHAIR ROSSTON: Great. Thank
11 you very much.

12 Okay. I think what we should do
13 is move -- unless you have anything, we should
14 move straight to the working groups. And I
15 think we're going to do this slightly out of
16 order because Charlie Rush has requested to go
17 first. He has another commitment. So I think
18 we're going to hear from Working Group 3 and
19 then go in numerical order after that.

20 Is that right, Bruce?

21 MR. WASHINGTON: Yes.

22 MR. POVELITES: Okay. So,

1 Charlie, we're going to move onto Working
2 Group 3's, I believe, status report at this
3 point.

4 DR. RUSH: Thank you very much,
5 Greg. I do appreciate that. Now that Rick is
6 on the phone, I don't know whether he would
7 prefer to give this report.

8 (No response.)

9 DR. RUSH: Well, perhaps Rick is
10 not on the phone any longer. I will assume
11 that by silence, it's okay for --

12 MR. REASER: I can't find the
13 unmute button. Sorry.

14 DR. RUSH: So I'll just go ahead.
15 And this report should be very quick because,
16 in essence, it's not that much different
17 between what it is that we can report today
18 compared to the CSMAC management meeting that
19 we held in January.

20 It's the second of my slides, and
21 I apologize, I cannot participate via the
22 internet because there seems to be a number of

1 places in and around this area that are where
2 computers and access to the internet have gone
3 down.

4 At any rate, if you could turn to
5 the second slide, key subject areas, there has
6 been really no change to what it is that we
7 are studying and where we are compared to the
8 -- where we want to be. At least three main
9 areas we've looked at: Interference from the
10 commercial devices, user handsets into
11 satellite receivers. An initial study done by
12 Bob Kubik has indicated that it should not be
13 an interference issue.

14 The government has undertaken to
15 do a similar study based on information that
16 they obviously have relative to receiver
17 sensitivities in their network that would not
18 be available to those in the commercial side.
19 And we're awaiting their final results.

20 I understand that the study didn't
21 essentially complete and it's just a matter of
22 going through the process of having it

1 released to the working group as a whole.

2 Similarly with regard to our issue
3 of interference on the satellite Earth
4 terminals into the commercial base stations,
5 studies that was done up on the commercial
6 side indicates that the possibility for
7 sharing exists. There may be some need for
8 coordination between the operators, the future
9 operators of the mobile service -- the
10 commercial service and the incumbent
11 government operators. But I think in
12 principle that appears to be workable, at
13 least as far as the commercial studies have
14 indicated.

15 And, again, we're waiting for the
16 public release of the study that has been
17 undertaken on behalf of the government side.
18 And we're optimistic that that release will
19 come within the next -- if not the next few
20 days, certainly within the next week or so.

21 And with regard to the electronic
22 warfare, we've pretty much completed that

1 study. And when I say "we," I have to really
2 specify who the "we" is in this particular
3 instance. And that is, that early on in this
4 whole effort, it became clear that there
5 wasn't much that people who had not -- did not
6 have access to the appropriate clearance
7 levels to really participate in a meaningful
8 way in the discussion with regard to
9 electronic warfare, and therefore the whole
10 effort has resided within the confines of the
11 government.

12 And we now have a report from the
13 folks responsible for undertaking the
14 electronic warfare operations in this band.
15 And we're right now within the group trying to
16 figure out exactly what the recommends should
17 be and could be based on the information that
18 is available to us.

19 But to look at the bottom line,
20 where it says no changes to the preliminary
21 findings to date, and that's pretty much a
22 true statement. But we're not that far away

1 from having the information that we need to
2 come to some conclusions. And we're
3 optimistic that we'll still be able to make it
4 by our to be our final drop-dead date.

5 The next slide, slide 3 addresses
6 the interference from mobile users into the
7 satellite receivers. We've indicated that
8 based on what we've done thus far on the
9 commercial side, it appears it's not going to
10 be too much of a problem, if at all. There
11 are some talk about needing to finish first in
12 some manner yet to be specified, that whatever
13 we conclude at this point in time is clearly
14 dependent upon the assumptions that were made,
15 the mobile usage, its distribution both in
16 terms of frequency and location and power.

17 And, as that distribution may
18 change over the course of time, we may have to
19 reassess -- reassess what may have to be made
20 as to what's the likelihood of interference on
21 that -- those changes, but that's something
22 that at this point in time we haven't been

1 able to address because we haven't gotten the
2 final results from the government side of this
3 particular study.

4 And with regard to the
5 interference from the satellite Earth
6 terminals at the commercial base station
7 receivers, essentially the same sort of
8 situation. The commercial studies have
9 indicated they're probably work-arounds that
10 we can deal with, as I mentioned before.
11 We're awaiting release of the DoD studies and
12 are optimistic that what the DoD will conclude
13 is not all that much different than what we
14 have done on the commercial side. But I'm
15 attempting to prejudge, but, on the other
16 hand, there has been no signs of a wailing and
17 gnashing of teeth, and anything of that sort,
18 so the optimism certainly does prevail.

19 With regard to electronic warfare.
20 As I had indicated, this is part of the work
21 that's been done solely by the government. We
22 don't see that there's any key issues

1 involved. If you just look at the fact that
2 electronic warfare operations currently are
3 undertaken on a noninterference basis, then
4 the issue becomes one of how to address the
5 similar sort of operation in an environment
6 that is very much changed from what's
7 currently the case with regard to electronic
8 warfare operations in this -- in the 1755 to
9 1850 band, where they are able to coordinate,
10 evidently quite effectively and efficiently,
11 with their colleagues that are also occupying
12 the band. But that may change quite
13 substantially when you have to deal with
14 potentially millions of mobile users running
15 around with, we assume for this band, with the
16 fan set. So that's something that would have
17 to be worked out.

18 And someone has to do some studies
19 and make a detailed assessment as to whether
20 or not there would be a significant change in
21 how the procedures that are now being
22 implemented to conduct electronic warfare

1 operations would have to be changed, and what
2 those changes would be. That is something
3 that clearly we cannot address within the
4 Working Group 3 other than to point out a
5 possible area of concern. Because this
6 involves having access to what the procedures
7 are right at the moment and projecting how
8 they will change over the course of time. And
9 we have no idea as to any of those sorts of
10 items.

11 And coming to the last new graph
12 is our schedule, see on the right-hand side,
13 the status. It appears that only the first
14 three items have been completed. We have one
15 item, the fourth item, delayed to February
16 18th, where we may be a few days away from
17 having that one at least addressed. We do
18 have the document. We're in the process, as
19 I said, of working out what recommendations
20 could be put forward.

21 And all the other items, we have
22 dates that are, I think, doable. They slip a

1 few of the dates on the individual tasks, but
2 we're still optimistic that the final
3 consensus report will be able to be delivered
4 on or about the 4th of April.

5 And, you know, I think we've
6 undertaken and have conducted the work in a
7 very, very cooperative manner. The issue
8 right now is with regard to completion of the
9 task is one that really is tied to the
10 releasability of the information and is
11 understandable. And as soon as they get
12 released, I think we're ready, we stand ready
13 to progress as quickly as we can and complete
14 the task.

15 Thank you. And thank you very
16 much for allowing me to go first. And, again,
17 if you have any questions and if that would be
18 appropriate to take at this time, fine.

19 Otherwise I will attempt to come back onto the
20 call by next teleconference, hopefully that
21 won't last for more than an hour. Thank you.

22 CO-CHAIR ROSSTON: Okay.

1 MR. REASER: Hi. This is Rick
2 Reaser. I'm sorry. I was actually on mute
3 and I couldn't figure out how to get off mute
4 on the phone here. But I wanted to make one
5 other comment about the electronic warfare.

6 I think as Charlie pointed out,
7 one of the dilemmas we have is that we were
8 basically only given six slides of information
9 by DoD. And it was their reluctance to have
10 the committee take a look at the existing
11 procedures and models, whatever, to see how
12 it's done today and whether those could be
13 adapted. So at this point it looks like the
14 federal government wants to keep that process
15 sort of in-house. And so there's not a whole
16 lot we can recommend in that regard, unless
17 there's a move to have us take a look at how
18 it works today, but they felt that that wasn't
19 really releasable, about how the current
20 process was conducted today.

21 So our recommendations, unless
22 that changes, aren't going to be very earth-

1 shattering.

2 CO-CHAIR ROSSTON: Okay. Do we
3 have, I'm just going to start around here,
4 questions for the report? First, Karl Nebbia.

5 MR. NEBBIA: A couple of quick
6 questions. With respect to the EW side, has
7 DoD provided anything in terms of a short
8 statement or framework that kind of
9 generalizes how they would deal with that in
10 terms of, you know, using existing procedures
11 or anything that would give some general sense
12 of what they were looking for in terms of
13 assurances or changes?

14 DR. RUSH: Not that I'm aware of,
15 Karl. It hasn't become apparent to me if they
16 have.

17 MR. REASER: The answer is no.
18 This is Rick. They haven't given us anything.
19 Basically, what they said was they have
20 existing procedures today. We asked that we
21 might hear about how the FAA does it, to see
22 whether that might be transportable to this

1 band. And that was -- they decided that we
2 didn't need to hear that.

3 And then the existing process that
4 FTC uses, they weren't interested in telling
5 us about that. So I think what was said was
6 they said: well, we have these processes and
7 procedures today, and we believe those same
8 processes and procedures would be applicable
9 for this.

10 The NASA rep at yesterday's
11 meeting said, well, maybe one recommendation,
12 we could make a recommendation that the
13 existing procedures be investigated by NTIA
14 and DoD and the other agencies to see whether
15 they're applicable or not, then assess whether
16 they need to be modified. But unless we have
17 access to how it's done today, there's not
18 really a lot we can do. Basically they just
19 said it works fine today. So, and they're
20 going to operate NID and that's kind of what
21 they said.

22 MR. NEBBIA: Okay. But even that,

1 I was -- you know, I was wondering certainly
2 -- this is Karl again -- early in the process
3 whether they were going to ask for more than
4 that, given that they do have some need to
5 operate in cellphone bands. But if the
6 current procedures, which I think they've
7 reflected accurately, there is a note in the
8 NTIA manual concerning these activities, but
9 then it references a nonpublic document, where
10 DoD and other agencies deal with this issue.
11 So I think from that standpoint, they're
12 dealing with what their limits are in
13 releasing that information.

14 But certainly if they're saying
15 that they're willing to work under the
16 existing approach, then I think we've -- in
17 that, we've got a recommendation right there.
18 It sounds like they're not asking for
19 something more than that, so --

20 MR. REASER: Well, that's not
21 entirely true. They're asking for more in
22 that what they wanted us to recommend, and I

1 said I have a hard time doing this without any
2 information, is: Well, what we'd like you to
3 recommend is that the process be down to 21
4 days and then down to near real time in terms
5 of authorizations for each of the
6 authorization. And then they also wanted us
7 to recommended to go make the validity dates
8 for these authorizations go from one to two
9 years.

10 And so I --

11 MR. SNIDER: Jim Snider.

12 MR. REASER: -- what's the right
13 -- what's the basis of that, and they were not
14 able to do that. But they did ask for more.
15 They did want it to be faster and they did
16 want it to last longer.

17 DR. RUSH: Yes. Karl, this is
18 Charlie Rush. You know I think the issue
19 here, plain and simple, is that we are
20 operating here in the dark, and I don't mean
21 that to be a complaint. I mean, that's just
22 a statement of fact. And it's beyond our

1 capabilities to make -- to draw a conclusion
2 as to whether or not things will change when
3 you have a possibility of millions of people
4 running around in the band transmitting,
5 compared to when you have much more control
6 over who it is that's doing what, when, and
7 where.

8 And that is something that I think
9 we cannot address. And if the users, if the
10 electronic warfare community feels that
11 they're cool and can keep their procedures
12 apart from some of the changes, as Rick
13 mentioned, then you know that's fine. But I
14 just thought and some of us think that's it's
15 worthwhile pointing out that the background
16 that they're going to have to deal with will
17 certainly be changed.

18 MR. NEBBIA: Okay. This is Karl
19 again. I have one other question and that is
20 related to the Phase 1 analysis of the
21 interference into the commercial providers.
22 Can you give us some sense of what kind of

1 distances were being calculated in that and
2 whether industry had any concerns about that?

3 My assumption is that the follow-
4 on Phase 2, the more detailed work that DoD is
5 doing, my guess is that that would, in fact,
6 make the band less of -- or the interference
7 less of a problem as they get more specific.
8 But can you tell us like what kind of
9 distances they were reaching in the Phase 1
10 analysis?

11 DR. RUSH: Offhand, I can't
12 remember exact numbers. My feeling is that
13 they're probably on the order of 10 to 15
14 kilometers, or something like that, assuming
15 that people are going to be transmitting at an
16 angle that is somewhat above the zero-degree
17 elevation and probably in areas that will have
18 some sort of geographic or demographic
19 obstructions, and things like that, and are
20 going to be, for the most part, transmitting
21 in urban areas.

22 I think the general feeling of the

1 group, I believe the general feeling of the
2 group had been that one could, for the most
3 part, be able to develop viable work-arounds,
4 and this was not a show-stopper, by any
5 stretch of the imagination.

6 MR. NEBBIA: Okay. Any specifics
7 on what kind of work-arounds they're talking
8 about, Charlie?

9 DR. RUSH: I don't have it on the
10 tip of my tongue at this point, Karl. I'm
11 sorry.

12 MR. REASER: They were going to
13 talk about -- this is Rick. There is another
14 study they're doing that has to do with
15 mitigation things and where they're going to
16 release that to us.

17 But the way that Rob did the study
18 was it was basically the worst case. It
19 assumed that every satellite uplink station
20 was transmitting in all directions at all
21 frequencies at the minimum elevation angle,
22 which was three degrees. So it was a fairly

1 big circle. And so the worst-case thing, it
2 was on the order of 50 kilometers at least.
3 And there was no train masking, or anything
4 like that, as a part of that study.

5 So we're waiting to see what the
6 DoD comes back with and if they will, you
7 know, make any kind of commitments to certain
8 things, which we'll find out when we get the
9 data. But it's a fairly wide slot.

10 The other issue is that there is
11 no -- they could build a new one or put it up
12 anywhere at any time. They sort of reserve
13 the right. Because we don't even know where
14 all the sites are right now, so that's another
15 kind of a problem with that.

16 But we have like a general, you
17 know, what the radius is, and it's fairly
18 large. And hoping then we'll get the data
19 from the DoD. Maybe that will build strength
20 based on the information they have that we
21 don't have.

22 MR. NEBBIA: And is the LTE

1 operation -- this is Karl again -- of the sort
2 that they can live with? For instance, the
3 satellite operation coming up, starting at the
4 horizon and then tracking the satellite up
5 through the non-geo orbit, is that type of
6 situation a problem for industry? They might
7 have somebody come up, you know, on their
8 operation for a brief period as the satellite
9 Earth station tracks the system?

10 Is that -- I mean obviously most
11 of the time that the satellite is actually
12 communicating it's going to be pointing up and
13 over, not at the horizon.

14 DR. RUSH: Well, I think, Karl,
15 yes, the answer to your question that has the
16 most certainty is: It all depends. But
17 you're exactly right --

18 (Laughter.)

19 DR. RUSH: -- that there are going
20 to be instances when the ground station is
21 going to be transmitting and it's going to be
22 moving in an elevation angle. And in those

1 instances I think what will happen at the base
2 station we will see interference or potential
3 interference or at least the signal that is
4 indicative of something that's consistent with
5 both its -- the received antenna pattern as
6 well as the transmitter antenna pattern.

7 And depending on how often that
8 occurs and when it occurs and the
9 predictability of that, except in the case of
10 emergencies, there may be work-arounds. And
11 that's one of the things -- I mean, Rick
12 alluded to the fact that we're anticipating
13 from the Phase 2 study, information with
14 regard to possible mitigation techniques.
15 What has to be done of course is that the
16 industry has to look at those proposed
17 mitigation techniques and make an assessment
18 as to what the practicality of those are with
19 regard to the kinds of systems that are now
20 being operated and the ones that we
21 anticipate.

22 I don't know if that answers your

1 question.

2 MR. NEBBIA: Well, I think that
3 I'm specifically interested in whether the
4 flexibility in the LTE system can adapt to
5 signals that come up for brief periods of time
6 and more or less work around them briefly or
7 ignore them. Ultimately, there may be other
8 approaches, you know, from each base station
9 potentially blocking out the specific
10 direction to the known antenna. That's may be
11 one possibility they're thinking of. I'm not
12 sure. But certainly if the LTE system is
13 flexible enough, that as it gets brief
14 interference that people potentially, people
15 on the phone are moving to another channels
16 and then are able to move back again, it seems
17 like something that industry could probably
18 live with.

19 DR. RUSH: Yes. I would think
20 that the LTE systems are flexible in terms of
21 their responsiveness. The issue then becomes
22 how is the operator going to deal with having

1 to make a change and how does he or she do
2 that and change to what. If it's to another
3 frequency band or may be all they need to do
4 is be able to switch to another sector of the
5 overall cell, and things like that, on all
6 sorts of function of a service that they're
7 providing, voice versus a data service.

8 CO-CHAIR ROSSTON: Okay.

9 MR. REASER: I think we ought to
10 just ask the question outright at the next
11 meeting, Charlie, because I think that's where
12 this is going to go. Because the other issue
13 is, you know, we don't know whether we're
14 going to get any commitments in terms of
15 whether the incumbent's going to commit to
16 anything. So, you know, I think we've got to
17 ask the question about whether the LTE base
18 stations can handle this or not, because I
19 have a feeling what's going to happen is like
20 we said at this last meeting, is this is going
21 to end up being that they're going to operate
22 on a noninterference basis, anyway.

1 So it's not clear whether they're
2 going to get any commitments out, you know,
3 stay away from this angle or keep my towers
4 this way or minimize my time, or anything like
5 that.

6 But right now, if you're outside
7 the circle, you don't get interfered with.
8 That was the basis for Rob's study. So I
9 think we ought to ask the question
10 specifically at the next working group and get
11 that out to the service monitors.

12 CO-CHAIR ROSSTON: Are there other
13 questions from around the table or on the
14 telephone, does anyone have a question for
15 this working group?

16 (No response.)

17 CO-CHAIR ROSSTON: Okay. I'm
18 going to jump in because I do have -- this is
19 Greg, and I'm taking my hat off as Co-Chair
20 and putting on one as a Committee member.

21 My concern is that I don't -- I
22 want to make sure that we're putting forth a

1 working group report that's a CSMAC working
2 group report, not just a DoD report. That
3 we're just stamping what they give us. That
4 we're actually making recommendations that are
5 -- you know, DoD can make its own
6 recommendations and do its own thing.

7 So just to make sure that we're
8 actually doing something that's unique to
9 CSMAC, not just rubber-stamping a DoD report.
10 That was my concern on that, in hearing that.

11 MR. REASER: This is Rick. I
12 absolutely share your concern because that was
13 the direction that this is going. Because
14 basically DoD wrote up what they wanted the
15 recommendation to be and they were not
16 supported by any of the information that we
17 had. So I'm kind of calling that -- it's
18 important that we do so this as an independent
19 federal advisory committee. You know, if
20 there's good information, we'll certainly
21 consider that. But, you're right, we can't
22 make recommendations that aren't supported by

1 the CSMAC itself, you know. And so we're
2 being very sensitive to that.

3 DR. RUSH: Yes, this is Charlie.
4 I think there are basically two items that
5 we're studying. One is, you know, the
6 satellite issue, for lack of a better
7 characterization, and the other is the
8 electronic warfare issue.

9 With regard to the satellite
10 issue, there shouldn't be any doubt in
11 anyone's mind that what the report will come
12 up with is a report -- if it's not a consensus
13 report, will certainly represent the views of
14 both sides. And it's not just going to be a
15 one-way street, for sure.

16 With regard to the electronic
17 warfare, there's a lot of details that one
18 would like to have that's not available to us.
19 So in that instance, I think the kinds of
20 recommendations that will emanate from this
21 committee will wind up being ones that are
22 much more general and maybe lean toward voting

1 the status quo. And I don't know what we can
2 do about that in the absence of having any
3 information upon which to make a decision.

4 CO-CHAIR ROSSTON: So my concern
5 was not that, you know, hey, you're doing
6 something wrong. It was that we should make
7 sure to be clear as to what this report is.
8 And then -- and I especially, I share your
9 concern about what can or can't do with
10 electronic warfare. Your comment about the
11 satellite makes me a little bit more
12 comfortable, because I sort of was hearing:
13 Well, the DoD is going to tell us what their
14 report says.

15 And I look at Working Group 1
16 where they had information and the exclusion
17 zones have dropped dramatically because of the
18 work of the group. And I want to make sure
19 that there's input that it has that. So I'm
20 glad that you're assuring me of that. And I
21 just wanted to highlight this. I don't think
22 we need to spend more time on it, but that was

1 just my concern.

2 MR. STRICKLING: I would just --

3 CO-CHAIR ROSSTON: This is Larry
4 Strickling.

5 MR. STRICKLING: Yes. I'm sorry.
6 Larry Strickling. I would just say that
7 nobody should feel that you have to accept a
8 report that you haven't had a chance to
9 examine the assumptions for and so provide
10 whatever caveats need to be provided.

11 But, more importantly, I don't
12 understand why you couldn't register that
13 concern as Chair of CSMAC as opposed to just
14 a member.

15 (Laughter.)

16 CO-CHAIR ROSSTON: That's okay.
17 All right. So I think we can move onto
18 Working Group 1. And what I'm hoping we can
19 do is that Working Group 1 can do what I do in
20 my classes and assume that people have read
21 it, and have a short summary of what we're
22 going to vote on and not have a long report,

1 just unless there's some objection to that. I
2 guess, Mark and Dennis, do a short
3 presentation of what Working Group 1 is and
4 then we have discussion on it.

5 So, Mark or Dennis, would you like
6 to go ahead?

7 DR. MCHENRY: Mark, I'm going to
8 present.

9 The Working Group 1 report is
10 essentially the same as we presented last
11 time. It's got three recommendations, which
12 we went over last time. The first
13 recommendation is the band should be able to
14 uplink. The second recommendation is that the
15 -- consider the possibility of moving some of
16 the weather satellite receivers. And the
17 third recommendation was a detailed framework
18 on how to do the sharing. And those were all
19 talked about in the last meeting.

20 What's happened new is there's
21 been a slight revision of the report that was
22 issued on February 19th. And it corrects that

1 protection zone distance calculation. And it
2 impacted Appendix 1, Table 1 a little bit.

3 And I notice on the website that
4 the latest report's not there yet. I guess it
5 hasn't been sent around yet. But otherwise
6 the report is the same. I mean there might be
7 other changes in the future because some of
8 the locations of the receivers was still being
9 determined.

10 CO-CHAIR ROSSTON: Can you hang on
11 one second?

12 Bruce.

13 MR. WASHINGTON: It's on the
14 website.

15 CO-CHAIR ROSSTON: Bruce
16 Washington assures us that it is up on the
17 website.

18 DR. MCHENRY: Well, I looked at it
19 before and there's a table that's in this
20 latest one that we got from Sharkey. There's
21 one table that's different. Appendix 1, Table
22 1.

1 CO-CHAIR ROSSTON: Okay. Well, --

2 DR. MCHENRY: It's just got
3 exclusion from distance differences. It's not
4 a major difference.

5 CO-CHAIR ROSSTON: Okay.

6 DR. MCHENRY: Just some of the
7 numbers are different in the table.

8 CO-CHAIR ROSSTON: Okay. Well,
9 make sure we get the right one up.

10 DR. MCHENRY: I don't think it's
11 using the wrong one. I think there was
12 another one that came out and it didn't make
13 the deadline. I don't think it's wrong.

14 CO-CHAIR ROSSTON: Okay. Sorry to
15 interrupt. Go ahead.

16 DR. MCHENRY: The report -- the
17 committee, for a month we got no comments.
18 Dennis and I didn't receive any comments, so
19 we're recommending that the CSMAC approve the
20 report. And that's the end of the progress
21 report.

22 CO-CHAIR ROSSTON: Are there

1 questions from around the table?

2 I had one very small question.

3 This is Greg again. On page 2 you talk about

4 validate on a site-by-site basis the

5 effectiveness of proposed interference-

6 mitigation methods at the bottom of page 2.

7 And I just wanted to make sure that was not

8 sites of the commercial users but sites of the

9 satellite base stations, earth stations, or

10 what are those sites? I think that just

11 wasn't clear to me when I read it.

12 DR. MCHENRY: The sites are the

13 satellite receiver locations.

14 CO-CHAIR ROSSTON: Okay. Just

15 wanted to make sure that I understood that.

16 Yes, I just wanted to make sure

17 that it wasn't every site, that somebody

18 wanted to use it on a commercial basis.

19 Are there comments or questions on

20 the phone?

21 (No response.)

22 CO-CHAIR ROSSTON: Okay. I guess

1 we can move to a vote on this, adopting this
2 Working Group 1 Report with the provision that
3 we will have a slight difference in Appendix
4 1 for the distances that will be placed on the
5 website. I think we can vote even though
6 that's -- yes. Can you put the phone on mute
7 again please?

8 So all those in favor of adopting
9 Working Group 1?

10 (Chorus of ayes.)

11 CO-CHAIR ROSSTON: All those
12 opposed?

13 (No response.)

14 CO-CHAIR ROSSTON: Okay. I think
15 that we adopt Working Group 1's Report.

16 And now moving onto Working Group
17 2. Since we started, David Borth has joined
18 us --

19 DR. BORTH: Yes.

20 CO-CHAIR ROSSTON: -- in person.

21 DR. BORTH: Right.

22 CO-CHAIR ROSSTON: So I'm hoping

1 -- yes. Yes.

2 DR. BORTH: It's real quick. We
3 made the presentation last time. We didn't
4 make any changes since last time, except a few
5 names were added towards the end, I think it
6 was the back of the report, it's the
7 contributors. But, apart from that, the
8 analysis was completed after the last meeting.
9 We presented it as presented last meeting, so
10 the overview that's given here is the same as
11 what was presented previously. And there have
12 been no substantive changes to this report.

13 And actually we thought we were
14 done at that time, so I think we just need to
15 put it up for a formal vote now.

16 CO-CHAIR ROSSTON: Okay. Are
17 there comments or questions either around the
18 table or on the phone for Working Group 2?

19 (No response.)

20 CO-CHAIR ROSSTON: We're moving
21 much more rapidly now. Okay. We'll have a
22 vote on Working Group 2's Report. All those

1 in favor, aye?

2 (Chorus of ayes.)

3 CO-CHAIR ROSSTON: All those
4 opposed?

5 (No response.)

6 CO-CHAIR ROSSTON: Okay. I think
7 we have that passed as well.

8 Now my quick mathematical skills
9 allows me to skip 3 and go to 4.

10 MR. GIBSON: Okay. That would be
11 me, I guess. Mark Gibson.

12 CO-CHAIR ROSSTON: Yes, this is
13 Mark Gibson.

14 MR. GIBSON: Yes, it is. And I
15 apologize for not being there in person. Just
16 time didn't work out for that. Part of the
17 reason is that the Working Group doesn't have
18 a whole lot to report since our brief in
19 January.

20 The work continues. We've had a
21 few minutes. We are still a bit hamstrung
22 from the inability to get results. It's

1 taking a while longer than we had expected.
2 We had a meeting yesterday and where we are
3 with things is we're expecting results to be
4 delivered through the review process in about
5 three to four weeks.

6 So with that, and you will recall
7 that we are doing analysis on three bases for
8 both the TRRs and the JTRS. And so we are
9 working on the report itself to find what we
10 can agree on with respect to recommendations,
11 absent that date and those results. And also
12 expecting that we're not going to get anything
13 more than the three areas that we are
14 analyzing right now.

15 So the next meeting, which will be
16 in two weeks, we will be digging deeper into
17 the report and on the recommendations. We
18 will be memorializing sort of the high-level
19 recommendations that we've made on the
20 microwave systems, which are pretty much
21 straightforward from the past. And so that
22 should be pretty easy, but we're going to --

1 one issue that we're -- and we got some more
2 data also from the DoD on the TRRs in terms of
3 the assignments and the number of assignments
4 and the bases. So that was very helpful so we
5 can get a chance to see what is going on at
6 each base. And that helps to determine the
7 sharing capability, the sharing possibility.

8 But we are -- but there's an issue
9 with -- some of the information that was
10 published at that time indicated that there
11 are assignments that are statewide
12 assignments. And so that speaks to a
13 different coordination process and sharing
14 process than you might have if you were only
15 operating on a base.

16 So what we're going to -- what we
17 need to do now is focus a little bit more on
18 what it looks like -- what a sharing and
19 coordination process looks like for a
20 situation where these TRRs can operate
21 anywhere within a state. And we're finding
22 out that's it more than we thought. Initially

1 I think we thought it was two states and now
2 we're learning it's probably seven. So we
3 need to dig into that a little bit and find
4 out what that means.

5 And then finally we're finding out
6 that the only way any more information is
7 going to be made available on the JTRS is
8 through this partner or trusted-agent concept.
9 So I think when we get into that toward the
10 middle of the meeting, it will be interesting
11 to hear how that's going to happen, because
12 absent any more information on the JTRS than
13 we have, it's going to be challenging to make,
14 you know, meaningful recommendations.

15 So, with that, that's pretty much
16 all we have to report. I'll be happy to take
17 questions, though.

18 CO-CHAIR ROSSTON: Okay. Karl.

19 MR. NEBBIA: Mark, one of the
20 questions I have -- well, first of all, I
21 should note that DoD is looking closely at
22 those statewide assignment and --

1 MR. GIBSON: Okay.

2 MR. NEBBIA: -- we're very hopeful
3 that they will ultimately look like the other
4 assignments that I think they were requested
5 some time in the past with a sense that it
6 gave them greater flexibility for emergency
7 circumstances, and that sort of thing. But
8 we're talking to them and they're looking into
9 it. And hopefully ultimately those
10 assignments will be changed to look like
11 location base, you know, specific locations,
12 as all the others are. They're certainly not
13 used differently than the other, so we're
14 hopefully to resolve that.

15 The other question I have is in
16 analyzing those locations, where you said
17 there -- and I realize at least from what I've
18 heard from some of the people involved with
19 running the analysis, these folks are
20 basically running the computers day and night,
21 grinding through the analysis they're doing
22 using terrain data and other factors. And so

1 that may be one of the reasons why you're only
2 going to get three of these locations out.

3 So my question is: Is there any
4 reason to believe that going through this
5 exercise on three locations is not going to
6 provide significant satisfactory information
7 for reaching a judgment on how this could be
8 done from base to base?

9 MR. GIBSON: Well, let me answer
10 your questions in reverse order. The answer
11 to the last question is I think that both
12 sides are -- the industry side and the
13 government side, which is primarily DoD,
14 believe that that is certainly possible. But
15 until the results are presented, you know, no
16 one really wants to step out onto the ice in
17 that situation.

18 The concern that people had from
19 the results that were done before was that the
20 sharing zones tend to be rather extensive.
21 And we've done some analysis of the areas
22 where these are TRRs are deployed or at least

1 where, you know, the bases in relation to the
2 top 100 market areas. And most of the TRRs
3 are at least within 150 kilometers of one of
4 the 100 market areas, if not, several.

5 So the alacrity of entities to
6 share will be, to some extent, based on
7 anything that we can extrapolate from the
8 results we get into some of these other areas.
9 And so I think we can and I'm pushing us in
10 that direction, and we'll see what we end up
11 with. But I think a lot of the ability of
12 that will be based on the results and, again,
13 how much we can extrapolate.

14 The answer to the first -- or I
15 got the comment on your first statement, which
16 is that's good to hear -- that's news to us,
17 because when we talked yesterday about it with
18 members of the DoD, no one really mentioned
19 that. So that will be a big piece of
20 information, if we know that the statewide
21 assignments actually sort of devolve into
22 point-radius operations, because that means

1 that is an entire use case that we may not
2 have to worry about, and that is sort of --
3 well, again, like sort of disaster-recovery
4 type coordination process for a statewide
5 operation. If that gets removed from the
6 consideration, then that may make -- that
7 certainly will make our work a lot easier.
8 That and the fact that the latest data
9 indicates that there are seven states as
10 opposed to two.

11 So if we get that information
12 sooner rather than later that will be helpful,
13 and then we can focus more on these other
14 things. So I'm hopeful that we will be able
15 to make some recommendations, some meaningful
16 recommendations based on the results we're
17 going to get. You know, and that's kind of
18 what we're moving to.

19 CO-CHAIR ROSSTON: Okay. Are
20 there comments or questions for Mark?

21 (No response.)

22 CO-CHAIR ROSSTON: All right.

1 Thank you, Mark.

2 MR. GIBSON: Thank you.

3 CO-CHAIR ROSSTON: Moving onto
4 Working Group 5, and I think it's Bryan
5 Tramont.

6 Well, hopefully we can hear you
7 without an echo, Bryan.

8 MR. TRAMONT: I can't believe I'm
9 being charged with this.

10 (Laughter.)

11 MR. TRAMONT: Now I'm the echo for
12 the entire presentation. And Jennifer is sorry
13 that she wasn't able to join us. She actually
14 originally was going to be running the
15 presentation today, but her international
16 travel got in the way, so she's sorry she
17 can't join us.

18 Our next meeting of Working Group
19 5, you will recall that Working Group 5 is
20 divided into four sub-working groups,
21 effectively. And we are meeting again as a
22 group on February 26th. That's next Tuesday.

1 We're waiting for the AMT stuff to come back.
2 It was supposed to be released earlier. And
3 we're hoping that it's now scheduled for
4 release between February 25th and March 1st.
5 If it is, then we'll do a telecom next week
6 and address it. If not, we'll post as soon as
7 it is available and make it available there to
8 folks. And then we'll move on with that. But
9 a lot of -- and you'll see this recurring
10 theme -- a lot of our work at this point is
11 dependent on things getting cleared and things
12 aren't getting cleared as quickly as we'd
13 like. So we're just trying to work through
14 these processes.

15 For AMT, they're a little delayed
16 as well. There we have to collect some
17 additional technical and operational data for
18 the systems to be used at the site locations
19 as they're selected, so that's a little bit
20 delayed.

21 PTMs, there's actually a funding
22 issue there. When we switched to the

1 randomized real LT network from the original
2 grid-network approach, it required some
3 additional funding. And we don't have an
4 estimated resolution date on that one. So
5 that's a work in progress.

6 And, once again, we're still
7 working on Working Group 4 as well.

8 So, overall, I think there are
9 some delays in analyzing the different
10 systems. We're still hopeful that we can get
11 done by mid-June, but some of these things are
12 going to be beyond the control and obviously
13 some of these issues are being worked out at
14 the larger -- at a higher political level than
15 the Working Group. And hopefully we can
16 continue to adapt and get this done on time
17 through the week process or not on time by
18 that week in June. And I think that's the
19 overview.

20 So a work in progress, waiting for
21 some processes to sit complete both in terms
22 of funding and some clearing issues, and

1 hopefully some of this will start to break
2 free as soon as next week. That's all I got.
3 Without an echo, I might add.

4 CO-CHAIR ROSSTON: Thank you very
5 much, Bryan.

6 Are there -- Karl's got his hand
7 up already, so.

8 MR. NEBBIA: Bryan or maybe even
9 Mark Gibson on the phone, any information that
10 you've gotten back thus far on the
11 measurements that are underway at this point?
12 Most of them of course are looking at the
13 airborne use, although I know some of them
14 were dealing with the satellite terminals.
15 But anything you can say to us at this point
16 about that input?

17 MR. TRAMONT: I don't have any
18 visibility on that. I don't know if Mark
19 does.

20 MR. GIBSON: Yes. I can -- as you
21 probably know, Karl, there's been a lot of
22 data presented and released through the

1 process that's been established. And so what
2 we are seeing in that is good representation
3 of the general-use cases for AMT in terms of
4 the spectrum occupancy in terms of time and
5 bandwidth at the areas where it's been
6 deployed.

7 For some of the other equities, we
8 are still in the analysis process. I want to
9 take a moment and say that the DoD has been
10 super cooperative in this effort. And
11 although it's been a long time unfolding, you
12 know, once we got into it, the base folks have
13 been very helpful and very cooperative. And
14 so we really appreciate it.

15 So we are still going through the
16 analysis process on the data that we've been
17 collecting on the monitoring effort. There's
18 another effort, as you are aware, that's on
19 some of the analysis of the modeling
20 simulations that ITS is doing. And I don't
21 know enough about what they're doing other
22 than they're getting meaningful results as

1 well. But they're coming up with -- you know
2 they're looking at this a different way.

3 But from the monitoring
4 standpoint, I guess the Cliffs Notes version
5 is we're getting good data. We can identify
6 what's going on. And, you know, it's going
7 through the DoD-clearance process, so we
8 should be able -- I think we're supposed to be
9 done with the efforts in about the end of
10 March. That's when we're slated to go to each
11 of the bases and remove the equipment. And so
12 we'll be working on the report, you know,
13 shortly after that. And we're hopefully to
14 have a report done within a few weeks after
15 that. So that's the basic update there.

16 CO-CHAIR ROSSTON: Other comments
17 or questions for Bryan or Mark?

18 (No response.)

19 CO-CHAIR ROSSTON: Okay. So we
20 are about -- oh, is this me echoing again?
21 No, good. Okay. We're about a half hour
22 ahead of schedule, so I think that we should,

1 instead of taking a break we'll continue to
2 take the break at 10:30 or so, but why don't
3 we move onto the NTIA Spectrum Management Hot
4 Topics. And this is going to be, I assume,
5 Karl presenting this.

6 MR. NEBBIA: We wanted to bring up
7 a couple of the recent reports that NTIA has
8 put out in, I think it was January 25th NTIA
9 put out its 5 GHz report that was directed
10 under the Middle Class Tax Relief Act,
11 actually directed in two separate parts. We
12 chose to pull the 5350 to 5470 and the 5850 to
13 5925. We chose to pull them together in one
14 report.

15 And in that report we indicate
16 that there are a number of radar systems in
17 the frequency range of 5350 to 5470. And
18 those radar systems are, in some cases,
19 ground-based, used by DoD and FAA primarily.
20 I think there were some NASA radars in there.
21 But there's also airborne radars that were not
22 considered in previous 5 GHz work. And there

1 are also some shipborne radars of a different
2 type operated by the Coast Guard, primarily.
3 There may also be some DoD use.

4 Also in that band is a thing
5 called a radar sat that's operated by the
6 Canadian government. It's a radar-based
7 satellite-sensing system. And there's a lot
8 of U.S. government interest in the data that
9 comes from that satellite. And we've received
10 certainly letters from the Canadian government
11 asking to ensure that we protect their
12 operation.

13 And then also in the band are UAV
14 links that are used by the Department of
15 Defense, by NASA, and by DHS, I think is the
16 other main group that's referenced in there.
17 And these links of course are a completely
18 different animal than the radars, the signal
19 type's different, the geometry working with
20 the aircraft, so on, are different. And these
21 systems actually operate under an
22 authorization from NTIA that is not actually

1 reflected in the allocation table. So we
2 have, over a period of years now, taken
3 advantage of the fact that there many radars
4 operate in the band. And, kind of within that
5 framework, we've been able to do some UAV
6 activities, which obviously are an improvement
7 in terms of spectrum-efficient use of the
8 band. But they certainly bring us to a
9 situation here where, given that they're not
10 reflected in the table, it's raised some
11 questions. And yet the operation still needs
12 to go on and still needs to be protected.

13 So we are interested in your
14 thoughts on that work. I've had a couple
15 other interesting steps forward in that the
16 commission released their rulemaking
17 yesterday, I believe it was, and NTIA the day
18 before had provided to the Commission a letter
19 indicating some of the areas that we believed
20 needed to be considered in this work. So we
21 are interested in your thoughts on what you've
22 seen thus far.

1 And the one other thing I wanted
2 to mention, the report is described in a
3 number of locations as a qualitative report,
4 in that we've identified what systems are in
5 there, we've identified what types of
6 mitigation techniques might need to be
7 considered. But, ultimately, the kind of
8 quantitative analysis that has to go on to see
9 how all these things will work needs to go on
10 between government and industry, in more or
11 less the same fashion that we are working now
12 within the CSMAC working groups, or given the
13 similarity of subject area, in the same
14 fashion that we did this work in the initial
15 5 GHz wifi bands a number of years ago.

16 All of that work progressed toward
17 an agreement that was first reached at the
18 World Radio Conference in 2003, that kind of
19 opened the door then to further work on this
20 issue where in the couple of years after that
21 radio conference, we came to final agreement
22 on measurement methods and standards and that

1 sort of thing.

2 So we envision at this point that
3 we will use, again, that same international
4 preparatory process, given the international
5 interest in wifi-type technology. We will be
6 moving forward with the quantitative work
7 being done in that same environment. So there
8 are people already engaged in the joint task
9 group work, pulling together inputs from
10 government and industry to come up with
11 quantitative solutions to help us deal with
12 the various systems that are in this band. So
13 that's where we are right now.

14 Of course there's also been a
15 great deal of interest from the transportation
16 community, as they have been working on their
17 802.11-based technology for the intelligent
18 highway systems, known under the Commission's
19 rules as designated short-range communication
20 systems, I guess. And they have expressed a
21 great deal of interest, since the band that
22 they have been planning for a number of years

1 to operate in is one of the bands that's under
2 discussion. So we have been working with them
3 to get them engaged in the international
4 preparatory discussions. I think that's
5 probably an area that they have not worked in
6 before. So we see that work moving forward
7 and moving forward pretty rapidly in
8 accordance with the kind of WRC 2015
9 preparatory schedule. So that's where those
10 activities are.

11 But we're interested in hearing
12 any thoughts that all of the Committee might
13 have on those reports and the direction we're
14 taking.

15 CO-CHAIR ROSSTON: Michael
16 Calabrese.

17 MR. CALABRESE: Yes, Michael
18 Calabrese. Karl, you know, I didn't get a
19 chance to -- I haven't seen any detail about
20 what the Commission adopted yesterday, in part
21 because I was flying and I'm not even sure if
22 they actually put out -- the NPRM, they did?

1 Okay. Because I haven't seen it.

2 So what is the significance of the
3 fact that the Commission is moving forward?
4 Does that mean that the NTIA has decided that
5 it will be possible to open those bands and
6 it's just a matter of degree, it's just a
7 matter of work out the details of the
8 condition, such as here?

9 MR. NEBBIA: I think the
10 Commission had a requirement under the
11 legislation to begin proceeding. That's
12 essentially, I think, the limits of the
13 requirement was to begin the proceeding. So
14 it was to kick the effort off, to make sure,
15 you know, in that way that it moved forward.

16 So I think by the Commission doing
17 this certainly shows an interest on their part
18 to move the ball forward, but it doesn't --
19 this doesn't, as far as I can see, convey a
20 conclusion that everything is going to be
21 workable. But certainly I think it reflects
22 a commitment to work with us and try to work

1 through what issues there are.

2 I think there were some other
3 component -- there was some piece in there
4 about the 5150 - 5250 band that was not
5 expected in the rulemakings. It doesn't deal
6 with the specific issue or the expanded wifi.
7 That -- there's something in there. And that
8 was part of our letter the day before, we just
9 reminded them that that was one of the bands
10 that we had reflected as being one of the
11 possible relocation bands for the federal
12 agencies out of 1755 to 1850.

13 So we certainly don't want to get
14 in a situation where we move forward on that
15 band, in some other direction, and end up
16 cutting ourselves -- that direction off for
17 possible relocation, if that's what we need to
18 do.

19 But, yeah, I think it reflects a
20 commitment to work through the same process.
21 The Commission people are engaged in the JTG,
22 alongside industry people. And that, I think,

1 is my interpretation.

2 MR. CALABRESE: Okay. But there's
3 no conclusions yet really about feasibility on
4 the administration side?

5 MR. NEBBIA: No.

6 MR. CALABRESE: Okay.

7 CO-CHAIR ROSSTON: My impression
8 was they had a February 20th deadline.

9 MR. NEBBIA: That's right.

10 CO-CHAIR ROSSTON: You'll notice
11 that today's February 21st, so.

12 (Laughter.)

13 MR. CALABRESE: Okay.

14 CO-CHAIR ROSSTON: Are there other
15 comments from the phone on this?

16 MR. GIBSON: Hey, Karl, it's Mark
17 Gibson.

18 MR. NEBBIA: Yes, sir.

19 MR. GIBSON: I just wanted to ask
20 you a quick question. Like Michael, I haven't
21 had a chance to read the Commission's order or
22 NPRM. But, once again, there was in your work

1 was how you addressed the C band -- the
2 adjacent Channel C Band Earth stations. And
3 I realize those are commercial systems, so
4 maybe they're out of your purview.

5 But there is a potential for those
6 C Band Earth stations that are transmitting to
7 interfere with DSRC operations and any other
8 operations that would occur. Did you guys
9 punt that to the Commission or just decided
10 that somebody's concern, or how do you think
11 about that?

12 MR. NEBBIA: Well, I think the
13 report reflects the fact that we acknowledge
14 that it is primarily the Commission's issue.

15 MR. GIBSON: Right.

16 MR. NEBBIA: You know, other than
17 the fact that a number of federal agencies use
18 the C band satellite systems, but it's still
19 -- you know, they're operated with commercial
20 satellite operations and so on. So it is
21 primarily a Commission issue.

22 And, you know, interestingly

1 enough, the same way on the transportation
2 side, most users that we're going to end up
3 dealing with are, in fact, non-federal
4 entities. But the Department of
5 Transportation has some direct interests and
6 responsibilities to make our transportation
7 work well, and so they have a vested interest
8 also. But it is mostly Commission licensees.
9 Or I guess it is under a form of license.

10 MR. GIBSON: Yeah. Okay. That
11 makes sense. I mean, most of the activity in
12 the DSRC, in fact I think all of it, is public
13 safety. There is a service code for
14 commercial, but most of the commercials, if
15 not all of them, are gone. So there's a
16 handful of public safety operations that are
17 mostly owned by municipals.

18 And the DSRC community worked with
19 the fixed satellite community and worked on a
20 sharing protocol, which is, you know, sort of
21 outside of this discussion, but those issues
22 have been addressed. So I think as this

1 rulemaking matures, that might see the light
2 of day again.

3 MR. NEBBIA: All right. And, I
4 mean, it's certainly our hope that these two
5 communities, the wifi community, if you want
6 to call them that, and the DSRC communities
7 are very closely related. Many of the same
8 companies are involved in both processes. And
9 the DSRC community, on the other hand, has
10 been working for quite a number of years on
11 this band. And, from what we hear from the
12 Department of Transportation, they are close
13 to completing the work on their standard. And
14 the Department of Transportation is close to
15 the decision place of determining whether
16 these system will be required in automobiles
17 in the future.

18 So they're getting kind of to a
19 decision point. I think that was one of their
20 biggest concerns, that as decisions on five-
21 years wifi were being considered, that it
22 might in some way prevent or hinder their

1 ability to move ahead and the decision process
2 that they've been working on for quite some
3 time.

4 CO-CHAIR ROSSTON: Kevin, did you
5 have a question?

6 MR. GIBSON: Okay. That's my
7 comment. Thanks.

8 CO-CHAIR ROSSTON: You okay?

9 DR. KAHN: Yeah. Yeah.

10 MR. NEBBIA: But this is Karl
11 again. But I should note we have been
12 encouraging them to please talk to one
13 another, that it would seem like a great
14 outcome if the two industries could work
15 together, where the technology on the wifi
16 side and the technology on the transportation
17 side were compatible with one another, knew
18 how to shake hands with one another, that sort
19 of thing, because we clearly want to protect
20 the safety aspects of the transportation
21 systems.

22 They, of course, are a little bit

1 uneasy about an unlicensed environment kind of
2 thing when they're trying to perform a safety
3 function. On the other hand, I think the wifi
4 industry itself and the market worldwide for
5 wifi-type devices is so significant that it
6 seems like the technology development there
7 would offer a great boost to the
8 transportation community, instead of trying to
9 be, you know, a more-narrowly focused
10 activity, but one that could ultimately
11 benefit from the joint sharing of technology
12 and working together.

13 DR. KAHN: It does strike me that
14 --

15 CO-CHAIR ROSSTON: This is Kevin
16 Kahn.

17 DR. KAHN: I'm sorry. Kevin Kahn,
18 yeah -- that one of the things probably we're
19 trying to do, I know we do this as a
20 community, but is to educate folks that are
21 beginning to use wireless stuff, and I don't
22 mean wifi people, but like the transportation-

1 safety type folks, for example, here, that the
2 nature of the beast is to be unreliable at
3 some level. And so you've got to do systems
4 design that is resilient no matter whether
5 there is unlicensed or potentially licensed
6 people wandering around the band, because
7 there are always going to be sources of
8 interference that appear.

9 And the notion that somehow that
10 there is something inherently much more
11 dangerous about the possibility that there
12 might be some unlicensed sharing or activity
13 going on than licensed, I think is just a
14 misreading of the physics of the situation in
15 reality relative to what good design for a
16 safety-critical system needs to be.

17 And I think people get that wrong,
18 I mean, that there's somehow this magical
19 thinking that goes on, that if it's licensed
20 then, you know, if I'm designing a safety-
21 critical system that's adjacent to it or near
22 it or in a shared band, that somehow it makes

1 my job easier.

2 And I don't think it does. If
3 you're designing safety-critical systems, you
4 still have to design with real failsafes and
5 real redundancy and resiliency that brings
6 your reliability up to whatever the acceptable
7 metric is. So making people nervous that it's
8 unlicensed, you know, I think that's the wrong
9 place for them to be concerned is what I'm
10 saying.

11 CO-CHAIR ROSSTON: Okay.

12 CO-CHAIR FONTES: Do you have any
13 more comments?

14 CO-CHAIR ROSSTON: So are you also
15 going to talk about the --

16 MR. NEBBIA: So I'll talk about
17 the --

18 CO-CHAIR ROSSTON: Are you going
19 to go into the second bullet?

20 MR. NEBBIA: Yeah. So if there
21 won't be any other questions or comments on
22 the first one -- and, once again, I want to

1 reemphasize the place where the quantitative
2 work is going on right now is in the ITAC-R
3 preparations for the Joint Task Group and the
4 ITU-R. That's where the work is going on. So
5 if people want to participate, that's where
6 the discussions are being worked on. That's
7 where the modeling is taking place. That's
8 where the various discussions about how much
9 time the devices are going to have to move
10 off-channel, and all those things are going to
11 get discussed. That's where it's happening
12 right now. So I want to encourage people that
13 are interested to please get in touch with
14 those folks. If you --

15 MR. CALABRESE: That's with a
16 focus on 5 GHz?

17 MR. NEBBIA: That's where the
18 focus on both of these bands is going on in
19 the quantitative analysis. So if you need a
20 contact point, Charles Glass in our office has
21 got the lead in that work. And he would be
22 happy to help you get engaged, but that's a

1 critical point.

2 Every once in a while I get a call
3 from somebody and they ask me, 'what is this
4 ITU-R work. We don't even know what it is.'
5 And, you know, it's taking off, so -- but we
6 are very successful in doing it this way the
7 last time around and I think we'll do it
8 again.

9 The second report, we --

10 CO-CHAIR ROSSTON: Are you doing
11 this part?

12 MR. NEBBIA: Yes.

13 CO-CHAIR ROSSTON: Okay. Just
14 want to make sure we're on the same page here.

15 NTIA 1675 - 1710 MHZ REPORT

16 MR. NEBBIA: Anyway, the second
17 report we wanted to bring to your attention is
18 we were also required under the Middle Class
19 Tax Relief Act to provide a report to the
20 President regarding the 1675 to 1710 MHz band
21 and to identify 15 MHz in that range that we
22 would be willing to make available for

1 wireless broadband.

2 And, interestingly enough in this
3 case, after the Fast Track Report we had
4 already identified the 15. Nonetheless, the
5 Act directed us to report to the President on
6 this. So we essentially, working along with
7 the CSMAC Work Group, following the work in
8 that group very attentively to see how that
9 was moving, came to a point where we were
10 ready to send over our report to the
11 President. And it's essentially a couple
12 pages reaffirming the fact that we think the
13 work here was going forward successfully
14 enough for us to say, yes, this is 15 MHz that
15 we can, in fact, move. There are going to be
16 processes that we can develop and put in place
17 that are going to make this very usable. So
18 that report was sent also Tuesday, I think.
19 So that's over there and that --

20 MR. STRICKLING: It was submitted
21 early. You should --

22 MR. NEBBIA: Yes, yes.

1 CO-CHAIR ROSSTON: One day or two
2 days?

3 MR. STRICKLING: We were counting
4 February 22nd, I think, as our deadline.

5 CO-CHAIR ROSSTON: Oh, so you
6 didn't want to wait for a vote.

7 MR. STRICKLING: Huh?

8 CO-CHAIR ROSSTON: You didn't want
9 to wait for a vote on that? You said we
10 expect them to vote, I think, in your report.

11 MR. NEBBIA: Yeah. Well, we --
12 (Laughter.)

13 CO-CHAIR ROSSTON: Didn't trust
14 us.

15 MR. NEBBIA: Yeah. Given the
16 interagency review process, we felt like we
17 had to count on something we could put down in
18 writing and move it forward. Anyway, so that
19 report is out, once again, reaffirming that 15
20 MHz.

21 So any questions on that piece?

22 MR. POVELITES: So what is the

1 next step then with regard to 1695 to 1710 in
2 relation to the recommendation that was
3 adopted here today?

4 MR. NEBBIA: Well, certainly they
5 are at our disposal to use in working with the
6 Commission. The Commission, of course, also
7 see them. And I'm not sure at this point of
8 their time table for starting the rulemaking
9 with the band. I think that they have
10 deadlines also set by them for the licensing,
11 I believe, of systems in the 2155 to 2180 band
12 and in a portion of this band, I recall, by
13 2014 -- '15, '15. Three years, so it would
14 have been February 20th or 22nd, whatever,
15 2015.

16 So I think that date, in a way,
17 drives their schedule. So they of course are,
18 I'm sure, going to be looking for frequency
19 matches since this was recommended as a
20 handset transmit band. They're going to be
21 looking for a band to go the opposite
22 direction. That all fits into the general

1 scheme.

2 So, yeah, we would be going from
3 here -- now we -- the recommendations also
4 recommend that we need to work with the
5 Commission and the agency's concern about
6 developing the actual coordination procedure.
7 So we will be moving forward on that. I
8 certainly will be talking with my folks as to
9 whether that means there needs to be more
10 discussion within the working group that might
11 help flesh that out a little bit. But my
12 understanding is that they have -- they have
13 got an analytical method that they've set up
14 that they've used for the calculations thus
15 far.

16 So the question will be: In an
17 actual coordination process, how will that
18 analytical method be manipulatable to come up
19 with other known outcomes?

20 So originally I certainly was
21 thinking that after we got done with the
22 distances, the interaction within the

1 protection distances was basically going to be
2 up to the company or agency that was involved,
3 and them just talking through whatever they
4 were going to need to do. Certainly they
5 expressed a desire to have a more known
6 analytical method, so that it wasn't they're
7 having a conversation and the first time the
8 conversation kind of goes sour everybody kind
9 of starts calling Congressmen or, you know,
10 going up the general's chain, or whatever it
11 happens to be. They wanted a process that
12 everybody was agreed to in terms of this
13 coordination.

14 On the other hand, there is an
15 opening in the coordination process, that it
16 says even in the future we might take on
17 things like working with the timing of the
18 satellite passing, and that sort of thing. So
19 it doesn't close off those approaches. It
20 just puts them in a position where somebody's
21 going to have to present that and demonstrate
22 how it works, and that sort of thing.

1 The other thing -- so the
2 recommendation actually directs us toward
3 coming up with basically an automated-
4 coordination process. So that needs to be
5 developed. One of the interesting things, of
6 course, challenges for us is neither NTIA nor
7 the FCC have systems that qualify under the
8 CSCA in terms of we're not relocating any of
9 our systems, we're not sharing any of our
10 systems.

11 So I think it's probably
12 questionable that we would qualify for getting
13 the money to create the automated system.
14 It's probably going to have to be with
15 Commerce or maybe an extension of DoD's portal
16 that was created during the last exercise.
17 But that's going to need to be done to be put
18 in place so everybody can feel confident about
19 how the things are being done.

20 We did have the question earlier
21 about whether these things are working around
22 specific government sites and so on. But it's

1 my understanding that ultimately as a company
2 presents its layout within the protection
3 area, they are actually going to be
4 presenting: Here is where all of our base
5 stations are and here's what we're doing with
6 them, in terms of then obviously the handset
7 speaking to them, and so on, so that it's
8 still going to give the companies
9 opportunities to manipulate and change the
10 layout of their system.

11 MR. TRAMONT: And, Karl --

12 MR. NEBBIA: Yes.

13 MR. TRAMONT: -- this is Bryan.

14 Can you just clarify one thing you said about
15 the funding? So you're saying it doesn't
16 qualify for CSCA funding, and it kind of plays
17 into something we discussed at the last
18 meeting about whether we need to be
19 recommending legislative changes, and what-
20 have-you. But it doesn't qualify --

21 MR. NEBBIA: No, I'm not -- I
22 didn't say that --

1 MR. TRAMONT: Why doesn't it
2 qualify again?

3 MR. NEBBIA: Okay. Sorry. That
4 will probably be the headline in the press
5 tomorrow. I didn't say it didn't qualify for
6 CSCA funding. I just said that the
7 recommendation says NTIA and the FCC should
8 put up this -- or make sure that there's this
9 automated system. And given that we don't
10 have systems that are moving, it's unlikely
11 that we can get the money, I think, is the
12 issue. It doesn't mean that NOAA can't get
13 the money and put the system up online, or
14 even that the companies couldn't work together
15 and create the system that everybody accepted.
16 It's just that NTIA and the FCC, as agencies
17 that are not actually operating systems,
18 probably don't -- it doesn't fall under
19 eligible costs by the law. It would for NOAA.

20 MR. TRAMONT: Okay. So just
21 speculating, but I would think there might be
22 an auction-funding mechanism that could also

1 be in place, since it's a condition precedent
2 to having a successful ultimate auction. But,
3 okay, I just wanted to understand what the rub
4 was on that. Thank you, Karl.

5 MR. NEBBIA: Right. Well, we at
6 NTIA, in fact, we're looking forward to an
7 auction-funding mechanism, so we'd be happy to
8 cash in a little bit more of that, so.

9 MR. TRAMONT: Bring it on, right.

10 CO-CHAIR FONTES: Karl, this is
11 Brian. On the process in terms of commercial
12 entity and the government agency, do you
13 anticipate also including in that a timeline
14 so that things will not be overly drawn out,
15 so that the coordination and the effort
16 continues to move forward rather than having
17 one or the other hold it back just because
18 they wish to hold it back?

19 MR. NEBBIA: Well, I think the
20 assumption here, and the recommendation in
21 creating this automated process, is that both
22 sides would understand how the automated

1 capability works. They all know the location.
2 This is not like some of the other DoD
3 operations, where there was certain
4 information being held back on the government
5 side.

6 So I think the assumption here is
7 that people would put in the data. Both sides
8 could actually run the data, if they wanted
9 to, and come out with what the answer is. It
10 should not require a lot of people holding
11 cards on their side of the table.

12 And I think in this community
13 we've seen a strong interest in wanting to
14 move forward on making the system work. There
15 are also some positives in here for the
16 satellite-receive terminals in that there's
17 statements in the recommendations about
18 understanding that if interference is caused,
19 that the companies will take action to rectify
20 that, and so on. So I think the people
21 working with the weather satellite systems
22 actually saw benefits in getting away from the

1 strict exclusion areas and moving toward more
2 of this coordinated mechanism and more of a
3 cooperative mechanism.

4 CO-CHAIR ROSSTON: Brian and I
5 were talking about the rest of the agenda.
6 And I think as long as the technical people
7 are okay, we would just go ahead and have 20
8 more minutes or so. Is that okay with you
9 guys?

10 MR. NEBBIA: Yes, because, I mean,
11 we certainly would save the people on the
12 phone from having to get off and --

13 CO-CHAIR ROSSTON: Right.

14 CO-CHAIR FONTES: That's what we
15 were hoping.

16 CO-CHAIR ROSSTON: So that was our
17 hope, was just to plow on, just to continue on
18 without the break and we'll end early.

19 So do you want me to get you some
20 water since you keep talking?

21 (Laughter.)

22 OVER THE HORIZON - NTIA STRATEGIC

1 BRAINSTORMING FUTURE APPROACHES TO
2 INDUSTRY/GOVERNMENT DIALOG,
3 INCLUDING THE TRUSTED AGENT CONCEPT

4 MR. NEBBIA: That might help.

5 Okay. So we had some other areas
6 here and the 20 minutes that we set aside was
7 because we thought the rest of the meeting
8 might take longer, and so on. So if it takes
9 us a little bit longer than the 20 minutes, my
10 flight doesn't leave for a little while, but
11 --

12 (Laughter.)

13 MR. NEBBIA: Anyway, however it --
14 and so, as you all know, I never run out of
15 something to say.

16 Okay. The first thing deals with
17 part of what we've been discussing here
18 earlier, and that is what future approaches
19 should we be looking at, in terms of this
20 industry/government dialogue, including this
21 concept of a trusted agent.

22 And what I should note here is

1 that, you know, we start off on the government
2 side with this challenging issue that we can
3 only receive consensus recommendations through
4 certain established fora. A FACA is certainly
5 a good example, where we can receive a
6 consensus recommendation.

7 On the other hand, we run into
8 problems if we try to pick groups from
9 industry and say we would like you individuals
10 to come in and give us a consensus
11 recommendation, we start running into legal
12 issues, and so on. So over a number of years
13 we've been trying to wrestle with how do we
14 get the people who need to be involved in
15 these discussions together with the government
16 and how do we put the government in a position
17 where they can have a dialogue.

18 As you know, traditionally most of
19 our government spectrum-management activity
20 dialogue actually goes on within the
21 Interdepartment Radio Advisory Committee.
22 It's not a public discussion. And we get

1 inputs from the federal agencies on all sorts
2 of issues, including FCC rulemakings, to help
3 formulate our views on them. And that's all
4 done in a non-public way.

5 A few years ago we put out an NOI
6 with respect to experience that we had gained
7 in the 1710 to 1755 relocation. And,
8 interestingly enough, all the commercial users
9 of that spectrum responded to our NOI. All
10 the government people provided their inputs
11 directly to us, not through the NOI process,
12 and they were done in a way that was treated
13 as internal discussions of the federal
14 government.

15 So we've had this challenge for
16 some time. How do we get the proper people
17 from industry and government together to have
18 this discussion? And we more or less, you
19 know, came upon this approach in preparation
20 for WRC 2003 where we got the wifi community
21 together with the government agencies,
22 primarily DoD and FAA, and we worked through

1 the possible sharing scenario and technical
2 modeling and interference analysis, and so on,
3 in the preparations for that world conference.

4 Some people at that point said,
5 well, why are we doing it there where it's an
6 unlicensed operation, why are we taking that
7 to an international radio conference. Well,
8 other parts of the world didn't treat -- don't
9 treat things as unlicensed. They come up with
10 other names. It's in effect much the same,
11 but in reality, groups do have product
12 licenses, or something, another way of
13 controlling it.

14 But the greatest reason for taking
15 it there was the fact that the international
16 community cared about the wifi systems, and
17 DoD, on our side, had an interest in ensuring
18 that wherever they had to go and whatever
19 mission they had to do, that they were not
20 going to run into problems from wifi systems
21 deployed around the world.

22 So it was to everybody's benefit

1 to try to work together toward an agreement.
2 It was a bumpy road, but we did get there. It
3 was not actually completed at WRC 2003, but we
4 came back from the results, industry had some
5 concerns about some of the results, and they
6 ended up changing the process some so that the
7 wifi systems actually identify radars over
8 kind of a range of characteristics. It's not
9 like they're looking for one specific radar,
10 but they are looking for radars over a set of
11 characteristics. And identifying them as
12 radars is one of the ways that helped them not
13 identify one another as radars, so that helped
14 the industry solve that problem.

15 So that process went forward. In
16 the end, NTIA working with industry and DoD
17 actually developed the measurement procedures
18 through that kind of round robin discussion
19 and the actual standards, interference
20 standards that were going to be required. So
21 when the Commission went out with their
22 rulemaking, we were able to just present them

1 with here are the answers that everybody
2 agrees works.

3 So we were hopeful that we would
4 be able to replicate that kind of thing again
5 and took it on in the CSMAC working groups.
6 Could we replicate that same concept? The
7 challenge here that we're finding is, first of
8 all, there's a lot more participants. So even
9 though the wifi industry is fairly large, I
10 would say at any time, if DoD was engaged with
11 between 10 and 20 people, it was probably --
12 that was probably the top end. And when they
13 actually had to do some of the test
14 measurements, they got people with security
15 clearances to participate in those test
16 measurements, and it was individuals
17 representing one or two of the companies. It
18 wasn't representing everybody. They didn't
19 have clearances. Many of the companies
20 weren't necessarily U.S. companies.

21 So as we stepped into the CSMAC
22 working group arena, and then found that we

1 had 80 or more people signed up for each of
2 the working groups, it created a whole new
3 environment. And DoD has raised concerns that
4 a lot of times when they are on these phone
5 conference meetings, they have no idea who is
6 on the other end. And so they --

7 DR. KAHN: At least it seemed to
8 me that --

9 MR. NEBBIA: This is Kevin, sorry.

10 DR. KAHN: This is Kevin. It
11 seemed to me that there were more DoD people.
12 I mean, you know, because I remember calling
13 into one of the earlier Working Group 5
14 meetings and it told me I was like number
15 eighty-something joining the conference. But
16 when I actually looked at the list of people,
17 it was DoD or DoD contractors that were, you
18 know, the majority of those people.

19 CO-CHAIR ROSSTON: But I think the
20 question is that there are -- this is Greg --
21 that some of these people, you don't know who
22 is on the phone, and DoD is concerned about --

1 DR. KAHN: No, I appreciate that.

2 I'm just saying that --

3 CO-CHAIR ROSSTON: There may have
4 been a lot of DoD people --

5 DR. KAHN: -- you know, say, geez,
6 we've gotten engaged with too many people,
7 while looking at the industry side of this, if
8 you will, the commercial/industry side of this
9 as fair, you might also want to have DoD look
10 at their own side of this and say do you
11 really need all of those contractors and
12 service folks participating, if you're worried
13 about just there's too many bodies to know.

14 CO-CHAIR ROSSTON: Yeah.

15 MR. NEBBIA: Sure. So as they
16 moved along in this process, given the
17 concerns that they had, what they came up with
18 was a system where they received the
19 characteristics from industry, primarily
20 developed in Working Group 1 here, and then
21 they were using those characteristics to run
22 through -- to have one of their Defense

1 Department contractors then run the analysis,
2 knowing the DoD characteristics on the other
3 side.

4 In some cases they were able to
5 provide some of the DoD characteristics, but
6 in other cases they were not. So we end up
7 with a situation where industry provides their
8 information. They do have a discussion about
9 the analytical method, so if there's any
10 concerns about that, they can talk about what
11 those are. The data goes into the contractor,
12 and they begin to crank out these numbers,
13 which, as I said before, given the inclusion
14 of terrain data and a lot of other
15 complicating factors, is taking them a long
16 time to do each run. And if they find out
17 there's a problem with the run, they have to
18 do it over and over again. That takes a lot
19 of time.

20 So that's the process they're
21 working on. And I think in one case they did
22 come back with some initial feedback. And

1 industry said, well, you used this grid layout
2 system in the analysis, couldn't we give you
3 an actual, you know, layout of our proposed
4 networks?

5 Now that took them a little bit of
6 time to work through that because none of the
7 companies wanted to tell each other exactly
8 what their layout was, and that's part of the
9 complications of the process. But they did
10 provide it back, an updated thing, that the
11 problem was it then set the analysis back two
12 weeks. They had to then rerun all the items.

13 So that's the way the system is
14 structured right now. If industry looks at
15 the results, ultimately that when they come
16 back and said, well, couldn't you tweak this
17 a little bit, it goes back into the two-week
18 recycle again. So that has its challenges.

19 DoD then raised the issue that
20 some of the technical data they just could not
21 provide, but they were willing to allow for a
22 third party to analyze how the data was run

1 and any of the outcomes, and provide what they
2 consider to be a trusted agent activity.

3 Their suggestion was that that would be the
4 FCC and NTIA reviewing that outcome. The
5 challenge we had on the Commission side is
6 that the Commission ultimately gets into the
7 rulemaking process. And from their view, they
8 were not very comfortable with being portrayed
9 in that role.

10 NTIA, being in that role by
11 itself, probably would not have been much
12 better in many of the commercial world's eyes
13 than DoD's, you know, person, or something, so
14 trying to look for a balance.

15 So I understand that there have
16 been some suggestions that maybe industry
17 working together could put up a set of a
18 smaller list of names, people that DoD might
19 be able to work with in terms of getting NDAs
20 with them. Maybe some of them would have
21 security clearances. I know a list of names
22 was provided at one point and many of the

1 people on the list were not U.S. citizens,
2 which that has its own issue there. But at
3 this point that appears to be part of what
4 we're talking about.

5 Another possibility was industry
6 agreeing upon their own contractor that may
7 have a clearance that could work directly with
8 the DoD contractor. The concern I heard on
9 that side was that there weren't generalized
10 contractors in the business who fully
11 understood the companies' technology and what
12 they were doing, so they preferred not to go
13 that route.

14 So that's under discussion right
15 now. But I think for our own purposes here,
16 I wanted to talk in general about that
17 direction. I mean, where do we go from here?
18 Does this, in fact, have in this direct
19 industry-and-government discussion, have we
20 found kind of a way through the pass to get to
21 where we need to be? Can it be reproduced in
22 the future? Is that certainly our -- we would

1 hope if we find a way through, that we can do
2 it again.

3 I know after the last meeting a
4 couple of you approached me about whether we
5 were going to be able to bring the 3.5 GHz
6 issue into the discussion in maybe one of the
7 CSMAC working groups. And we've had some
8 discussion with the Commission. And I think
9 at this point I think we're thinking that we
10 haven't quite gotten far enough along in
11 understanding what any of the proposals might
12 be, what any of the technology layouts might
13 be, in order to have that kind of real
14 meaningful discussion between the industry and
15 the government side. I mean, there's been a
16 variety of different proposals kind of put on
17 the table by different industry groups.

18 So I think at this point we're
19 probably going to have to wait a little longer
20 to see, you know, how that might go. We
21 didn't have that at 1755 to 1850. We knew we
22 were all working with LTE, you know, cell

1 phone operation.

2 So I am interested in your
3 thoughts on how we can take this idea forward,
4 you know, working within the legal
5 requirements and yet reach those goals, how we
6 might identify groups to adequately represent
7 industry.

8 CO-CHAIR ROSSTON: Okay.

9 MR. GIBSON: Karl, it's Mark. Let
10 me ask -- Mark Gibson -- let me ask a quick
11 question. Is this issue more with release of
12 data that's just not publicly releasable or
13 classified or both?

14 MR. NEBBIA: I think most of the
15 data we've been dealing with here is just not
16 publicly releasable. I mean, it's similar to
17 the government master file, I think something
18 like 85 percent, or something, of the records
19 that we have are marked exempt from public
20 release. It's not that they fit under the
21 traditional national security classification
22 means, but they're just information that the

1 entities don't want out in the general
2 public's hands.

3 MR. GIBSON: Okay.

4 MR. NEBBIA: So I think that's
5 about --

6 MR. GIBSON: If the issue were
7 classified, I think -- and you know as well as
8 anybody that to find an entity that could
9 represent industry interests that also has the
10 requisite clearances to safeguard data, it
11 would be challenging. There may be a couple,
12 but if the issue is more of just FOUO type
13 data, then I think there are ways forward, I
14 mean, to do that with companies that are on
15 both sides of it. I mean, we do that, but I'm
16 not supposed to be saying that as a CSMAC
17 member. But I think that that could be a way
18 forward.

19 I think the bigger issue is making
20 sure that we all agree on the analysis
21 methodologies, and we never really got to that
22 part. When we got to the point when we

1 realized that there was no way for industry to
2 have oversight on, you know, the specific
3 details, we realized that, well, we'll just
4 let the DoD run the analysis with their
5 contractor. And we just didn't have the
6 wherewithal at the time to revisit that. So
7 that's -- some of what you're saying is a
8 little interesting because it's not really
9 what we've been led to believe in some of the
10 discussions we've been having.

11 MR. NEBBIA: Well, certainly,
12 Mark, our intention, and everybody I've heard
13 from DoD and the participants, that they fully
14 expect that the groups would be deciding the
15 analytical approach. They may not get the
16 specific characteristics data of the
17 government systems, but the analytical
18 approach, certainly Working Group 1 worked
19 through that. And that's our expectation for
20 the other groups, that they would work through
21 the analytical approach.

22 Working Group 3, for instance, did

1 -- my understanding was did provide --

2 MR. REASER: Karl, that's not
3 true. It wasn't just 3. We don't know what
4 the government's analytical approach was. In
5 fact, at the last meeting they said, well, we
6 did something slightly different than you guys
7 did.

8 MR. NEBBIA: Okay.

9 MR. REASER: And so we'll find out
10 when we get there, but we did not agree on an
11 analytical approach to Working Group 3.

12 MR. DOMBROWSKY: And, Karl, this
13 is Tom Dombrowsky. I want to chime in too.
14 I feel like we're a little premature, to be
15 sure, with 3, Working Group 3, Working Group
16 4, Working Group 5, because we really haven't
17 gotten into any analytical at this point. So
18 it's sort of hard to see if there is a
19 framework here or not. And I think with
20 Working Group 1, we were -- we had a bit of
21 advantage in that some of your group did a lot
22 of the work and helped everything out. But in

1 these other working groups, I'm not sure we've
2 gotten to the point where we're confident that
3 this process is working yet.

4 MR. NEBBIA: Okay.

5 MR. GIBSON: And this is Mark
6 again. I would add to what Tom just said and
7 Rick, that within Working Group 4, the
8 statement was made yesterday that -- and I
9 think I mentioned this when I made my brief --
10 that the data offered -- for example, the data
11 on the JTRS systems would be made available
12 under this process, but not the results.

13 In other words, they would be able
14 to provide the results, but not the underlying
15 data. And so, you know, we're kind of at a
16 loss to know what we would do with the data if
17 we're given results. So it's a little bit
18 bigger than I think just the ability to run a
19 parallel, secondary analysis. It is just
20 engaging in conversations that need to happen
21 -- I think you looked at this at the beginning
22 -- that need to happen to drive

1 recommendations on sharing versus relocation.
2 And if it's sharing, it's, you know, how do
3 you do transitional sharing.

4 And so it's larger than just, you
5 know, an independent analysis and that sort of
6 thing.

7 DR. KAHN: This is Kevin. You
8 know, if I take this up a level, what it
9 really seems like you'd like to have, and I
10 guess my question is have you really exhausted
11 the legal frameworks for this kind of thing?

12 But what you'd really like to have
13 is an institute -- I'll use that word kind of
14 loosely -- populated by a set of people
15 nominated from government and from industry,
16 all of whom are clearable, that when you --
17 certainly from the industry point of view if
18 you were approved into this institute, you
19 know, it was that you were effectively really
20 working as an SGE when you were in the
21 institute in the sense that you were not
22 representing your company. You were

1 representing your expertise. And that you
2 could create essentially something that would
3 be effectively trusted by both sides to do the
4 diligence, have the arguments that are
5 inevitably going to occur, but that what came
6 out of said institute in terms of conclusions,
7 was acceptably trusted at least by the
8 industry side, I mean, since the government
9 side of it typically would have a lot of
10 people with clearances. I suppose they would
11 be able to look over the shoulder of it and
12 decide if they trusted it or not.

13 So I guess my question is: Is
14 there really no legal construct under which
15 that kind of an entity could be created.
16 Because you're going to come up against -- now
17 that we've kind of accepted, as a country,
18 that we're going to look for more and more
19 opportunities to do this kind of sharing, and
20 what not, and the technology is kind of giving
21 us that tool, I agree, you're going to wind up
22 hitting this problem over and over and over

1 again, right? So you can continue to be in
2 the unfortunate position you find yourself in,
3 which is, you know, are we managing and
4 navigating it? I mean, for right now it's the
5 best you can do, I would agree.

6 But I guess my question is: Is it
7 worth trying to elevate it up a level and say,
8 you know, whether this process ultimately
9 leaves people feeling good or not about this
10 particular band, I think everybody involved in
11 it would certainly be willing to agree that
12 it's hardly been an efficient process. And if
13 you're going to try to replicate this for more
14 than a very small band like this, you know,
15 that inefficiency and that inevitable distrust
16 that kind of accrues from the process isn't
17 going to be very helpful.

18 So I guess, you know, my question
19 is: Is there really no legal structure that we
20 could create that would require a level of
21 trust on industry side going in as to who got
22 nominated and how that process worked, but

1 that once you put the energy into creating it,
2 you know, could operate and in some sense I
3 guess I'd be saying at one level -- I mean, I
4 suppose it would come under FACA no matter
5 what, but it wouldn't so much be giving advice
6 to government as putting conclusions on the
7 table for everyone. And whether everyone took
8 those conclusions or not, what you would have
9 from them is sort of sanitized conclusions
10 approved by a group of people that both sides
11 of the argument, you know, sort of had been
12 willing to say, 'All right, I'll trust what
13 comes out of that.'

14 And maybe you could insulate that
15 perhaps from the FACA thing by saying, hey,
16 these results are simply published to the
17 world, almost in an academic sense. And now
18 perhaps what we can do is kind of launder
19 those results back through something like a
20 CSMAC, to hand them back into you guys through
21 the legal fiction of a real FACA.

22 But I'm wondering if something of

1 that sort could be constructed legally to
2 create a little more viable long-term
3 institution that would help make these
4 processes work better.

5 MR. STRICKLING: Kevin, this is
6 Larry. An interesting idea, and we can take
7 a deeper look at it. I'm not sure it would
8 have to stumble over the FACA issues.

9 DR. KAHN: Well, maybe it
10 wouldn't. That would be better.

11 MR. STRICKLING: I guess what I'm
12 trying to understand is how does having
13 something more permanent help and is it
14 realistic, as opposed to bringing people
15 together and solving them as we approach
16 individual bands for consideration. Because
17 you're probably going to have different people
18 depending on what the systems are and what the
19 band is.

20 So you could put a structure in
21 place, let's assume we could, and have
22 industry basically say here are the five

1 people that we all trust that we'd like to see
2 engaged and we could make them SGEs and
3 whatever, we could give them a business card,
4 or whatever it takes. But I think at that
5 point they're basically working for the
6 government, so we can avoid the FACA issues.
7 But the problem is, so that works for band A,
8 but then the next band out, band B, none of
9 these five have the level of expertise that
10 you need.

11 So I guess I'm trying to
12 understand, what's the value of having the
13 continuity and the permanence --

14 DR. KAHN: I'm not so sure they
15 wouldn't have the level. I guess my -- I'm
16 not willing to just sort of say they wouldn't
17 have the level of expertise, particularly if
18 you explored at least part of that group with
19 some good, say, academic researchers and
20 populate some of it with people who have a
21 pretty broad technical expertise in
22 interference-type issues.

1 I mean, I think at the end of the
2 day the question is would the non-governmental
3 players be willing to say, you know, I really
4 do trust -- if these guys come back and say,
5 you know, that band, it's just not shareable,
6 you know, we have looked at the real data
7 that's going on, we've done the analyses,
8 we've listened to suggestions that you guys
9 have published, it's not shareable, that you
10 wouldn't wind up with this, aha, you know,
11 that's DoD playing games with us again. That
12 somehow you would create a place that had
13 enough insulation from DoD, that the people
14 there were not viewed as just DoD lackeys --
15 I'm using loaded words just because it's what
16 kind of you hear on the distrust side of it --
17 that what you're seeing, these are not a bunch
18 of just DoD contractors that are towing the
19 DoD line. That these are folks who we trust,
20 are neutral enough to look at it and say, yes,
21 this conclusion does make sense, or this is
22 shareable but only with these kinds of

1 restrictions and we've done our best efforts.

2 What I'm looking for is a way to
3 kind of -- I see an awful lot of -- it seems
4 to me an awful lot of time wasted with people
5 spinning wheels that are pretty much
6 lubricated with distrust. And, you know,
7 that's maybe a little loaded, but a lot of the
8 'Where does the analysis get done,' you know,
9 'We're not seeing the data,' I mean, all of
10 those kind of discussions are really rooted in
11 the, 'If I saw that, I don't think what I'd
12 see is really what I'm being told.'

13 So what I'm trying to do is say is
14 there some way to get past that part. And
15 maybe you're right, maybe the individual band
16 problems are so specific that you can't
17 generalize it. But I guess I'm not so sure of
18 that, I mean, that a lot of the issues are
19 really more about how do you put in place a
20 set of people that, reluctantly or not,
21 industry will look and go, 'Yeah, you know, I
22 would have thought we could share it, but I

1 know who these people are, I know their
2 credentials, and if they say it doesn't work,
3 let's move onto something else.'

4 MR. STRICKLING: And I --

5 DR. KAHN: And that's just based
6 on --

7 MR. STRICKLING: Yeah, yeah. And
8 I agree with all of what you're saying. It
9 seems to me this is a threshold issue that we
10 have to solve in terms of our ability to
11 replicate this process in a more efficient way
12 as when we look at things in the future.

13 I'm just trying to understand --
14 and so I think either way you need to have a
15 framework that you can pull into it --

16 MR. NEBBIA: Right.

17 DR. KAHN: Yes, sir.

18 MR. STRICKLING: -- at any point
19 in time. Where I guess I was reacting was the
20 idea that we kind of create a permanent set of
21 experts somewhere who can be brought to bear
22 in this. That creates issues in terms of,

1 well, they always have to be the right people

2 --

3 DR. KAHN: Well, and maybe the
4 framework is the right --

5 MR. STRICKLING: -- and also it
6 creates issues in terms of conflicts they may
7 have and --

8 DR. KAHN: Sure. So maybe the
9 right thing is to say we're going to create a
10 framework that has a board onto which there
11 are ten non-governmental people, they get
12 nominated each time. And the way this is
13 going to work is that all relevant companies
14 each, you know, get to look at that result and
15 names get put forth. And the guys with the
16 top ten votes from academic, et cetera,
17 they're the ones that are in it for this go-
18 around, you know, because we publish what
19 they're going to be analyzing. You know,
20 perhaps something of that sort.

21 MR. STRICKLING: Yeah.

22 DR. KAHN: But -- so maybe you're

1 right, maybe you want to have more flexibility
2 as opposed to sort of some permanent,
3 nominating thing. But I do think finding some
4 way to create an institutionalized notion of
5 a neutral ground --

6 MR. STRICKLING: Right.

7 DR. KAHN: -- where folks that are
8 known to not have an a priori government or
9 DoD axe to grind are -- you know, you get them
10 cleared, you get them put in there so that
11 they can do the analysis in a sane way. And
12 then come back and just say: Okay, we did the
13 analysis, trust us, this works, this doesn't
14 work, et cetera. We'd just make the whole
15 process more efficient if you could get there.

16 MR. STRICKLING: Yes.

17 MR. GIBSON: Yeah, Karl, it's
18 Mark. Let me kind of chime again, Mark
19 Gibson, because I heard you say something
20 earlier that made sense because this is what
21 we did, if you remember, in the 1710 and 1755
22 band when the various carriers wanted

1 information, you know, from the industry -- or
2 from the agencies, and that was negotiated
3 NDAs -- negotiated and signed NDAs.

4 So you got your NDA and that might
5 be a way forward. If we're talking about data
6 that's FOIA exempt, that's FOUO, and --
7 primarily, then the NDA process seems to be
8 the way to unlock that. And, you know, if you
9 set up a set of guidelines for involvement
10 here, whether it's under FACA or not can be a
11 question, but it's one the -- like what we do
12 with interaction with DISA, if we sign
13 individual NDAs, so I'm bound by my operations
14 working with DISA through an NDA that I signed
15 personally, not that I've signed with -- not
16 my company, so each industry representative
17 that would want to be there would have to, you
18 know, fall under a certain set of criteria,
19 one of which would be a U.S. citizen; and,
20 two, at least sign a personal NDA, and then
21 really the only thing you're left is where you
22 would have such meetings and how you would

1 handle classified data.

2 And if the situation with
3 classified data is not that prevalent, then
4 you could have some guidelines, and that being
5 kind of where we were, I thought, with this
6 current discussion, is the industry was going
7 off and trying to find people with clearances.
8 You know, you could present a discussion when
9 the time is right, or -- well, probably not.
10 But, you know, put whomever had clearances
11 into the discussion if you're talking about
12 classified data.

13 But, really, if all we're talking
14 is FOUO data, it seems like sign the NDAs,
15 getting a venue to discuss it, and then moving
16 forward might be working.

17 MR. DOMBROWSKY: And this is Tom
18 Dombrowsky. I just want to chime in with --
19 on top of what Mark just said. And I think my
20 reaction to having sort of neutral third
21 parties is -- I think that would be
22 problematic from an industry perspective in

1 that they have folks that are going to have
2 information of what the company is doing
3 internally that they're not going to be
4 sharing broadly. And they would be the only
5 ones that would know that information. And
6 that would factor into some of their analysis
7 of these things, of how it would affect a
8 particular company. So more towards an NDA
9 type process or FOIA type of data would be, I
10 think, a better approach at some level, at
11 least for a portion of this work.

12 CO-CHAIR ROSSTON: So we have --

13 MR. TRAMONT: And I -- it's Bryan.

14 I do think the procedural framework is as
15 important as anything. So the timeline for
16 getting people cleared, you know, some of the
17 things that Kevin just touched on, how many
18 people are generally going to be involved, but
19 I think that Tom's point is -- I really agree
20 with it strongly, which is a lot of these
21 folks are going to need to have information
22 they bring from their private sector

1 experience to bring it to bear in assessing
2 what this looks like. So I think it is going
3 to have to come on an ad hoc basis, probably
4 band by band. But that the process and the
5 timing, in particular, would really benefit
6 from the kind of standardization that they you
7 were talking about.

8 DR. KAHN: This is Kevin. Just one
9 quick observation. You know I accept that
10 there's company proprietary information that
11 goes into this. But, you know, realistically
12 there's one overriding thing that goes on here
13 on the industry side which is that the
14 industries typically, I would say almost
15 universally, using standardized protocols.
16 The government is not -- I mean, or if they
17 are standardized, but they're standardized
18 inside the DoD.

19 But you can argue that there are
20 certainly different approaches to how somebody
21 might decide to lay out an LTE deployment, but
22 you're not going to get -- you know, it's

1 still LTE. So I am a little more skeptical
2 about how much the company-specific
3 information influences, ultimately, this,
4 especially because at the end of the day the
5 agreement has to be about utilizing the band
6 for a kind of service well in advance of
7 whenever an auction might take place that
8 would decide who it is that actually is going
9 to utilize that band.

10 So, you know, I do think that the
11 problem we have here is much more about a
12 standard that industry has decided upon and
13 its ability to operate in the government
14 context, in a sharing context, than it is
15 about a particular company.

16 CO-CHAIR ROSSTON: Carl Povelites
17 has the next question.

18 DR. KAHN: Finally we'll let Carl
19 speak.

20 MR. POVELITES: Thank you, Brian.

21 MR. STRICKLING: Never thought
22 being in the room would actually be --

1 MR. POVELITES: Yeah, would be a
2 hindrance, golly.

3 I'm agreeing with Mark, Tom, and
4 Bryan. And I guess my question is along --
5 you said that --

6 MR. STRICKLING: Not Kevin?

7 MR. POVELITES: Not Kevin, no, I
8 don't ever agree with Kevin.

9 DR. KAHN: That's fine.

10 MR. POVELITES: The various
11 entities had supplied names, so was the
12 problem with that then the fact that there
13 were not guidelines that were established?
14 For example, being a U.S. citizen, and could
15 then have gone forward if you did have
16 guidelines and then those were followed and
17 then you would have a trusted agent? Is that
18 kind of what --

19 MR. NEBBIA: Well, certainly
20 having agreed guidelines and a process like
21 we've talked about here would certainly have
22 moved that ball forward faster, because then

1 we wouldn't have gone through the iteration of
2 they put forward names that weren't U.S.
3 citizens and we had to back that out. I'm not
4 exactly sure where that discussion is right
5 now between DoD and the Commission, but they
6 were working toward closure on that. So I
7 think that's the direction that they're going
8 to agree to. It's just nailing down these
9 final names. I know they provided an updated
10 set of names. I've just been on a plane and
11 talking to you guys since they put it
12 together.

13 MR. POVELITES: It seems to me
14 that that would be -- that may be the model
15 that you end up developing because once you
16 get past this initial how-do-you-do-it, then
17 that may be going forward you have something
18 in place and those guidelines will be
19 hopefully something that can move things along
20 quickly.

21 MR. STRICKLING: Yeah. This is
22 Larry. I'm hearing the sense of the

1 discussion so far is that the industry people
2 would prefer to have their own people getting
3 to see this stuff, if they can. That's
4 preferable to either finding a contractor to
5 do it or finding ten graybeards to become the
6 oracles for all of industry on these matters.

7 Is that a fair statement of where
8 people are at in terms of their preference?

9 MR. POVELITES: Yes.

10 MR. NEBBIA: And I certainly know
11 -- this is Karl again -- on the 5 GHz --

12 MR. POVELITES: The other Karl.

13 MR. NEBBIA: The other Karl,
14 sorry. Pass the baton there. On the 5 GHz
15 wifi effort, the fact that some of the people
16 participating in the discussions knew how
17 quickly their devices could react to the
18 inputs, move off channels, and so on, and
19 there were actually some differences in
20 technology approaches in that case, maybe
21 we're not seeing that right now with LTE, but
22 there were frame-based approaches and other

1 types of approaches as they were looking at
2 that, so I think it was critical that people
3 with hands-on knowledge were participating.

4 Interesting enough, I would
5 consider the wifi community possibly less
6 well-defined in terms of who's a limited
7 number of folks you would be looking at, and
8 yet they were able to reach agreement with DoD
9 on a few people who went out and attended the
10 tests, and so on.

11 So I think it is workable down
12 that -- taking that approach. I think in this
13 particular case we were taking somewhat of a
14 new venture, weren't quite sure how many
15 people were going to actually volunteer, but
16 in fact we started off asking for a small list
17 of names. And the list kept growing and
18 growing. And then we made the announcement,
19 we felt like we didn't want to put a
20 stipulation saying that others could not
21 volunteer, and that's how we jumped to where
22 we are. But I think certainly the movement is

1 back in the other direction to see if we can't
2 kind of get a more limited expert group.

3 But, as Kevin said, the big thing
4 is how do we kind of institutionalize the
5 concept and process for the future. It would
6 be really nice if we were to have standardized
7 NDAs that everybody knew ahead of time: This
8 is what you're going to have to sign, and that
9 sort of thing. A little bit like as we've
10 gone through our process here in CSMAC, we now
11 know what things that we have to ask from all
12 of you, and that sort of thing.

13 So I think institutionalizing that
14 would certainly be a big help.

15 CO-CHAIR FONTES: This is Brian
16 Fontes. One of the things I think may be
17 helpful is the committee chairs come together
18 on a call and just try to pull together some
19 key bullet points of what they would consider
20 to be key elements to this type of an
21 agreement.

22 You know, we've had, I think, a

1 very successful meeting so far, and that is
2 the fact that we've got two reports approved
3 and then we've had these discussions that lead
4 us to this point where we are now is to
5 recognize, and this is where I do agree with
6 you, Kevin, is that we're going to be in an
7 environment on a going-forward basis where
8 there is going to be continued pressure, if
9 you will, to share spectrum. And if we can
10 work to get a process in place or a blueprint
11 for a process in place that could be developed
12 and utilized again and again, it may become
13 more refined as it's used over time, but then
14 I think it would help immensely in moving the
15 opportunities to examine sharing.

16 And I know how frustrating it must
17 be for the committees to continue to wait for
18 information to come back. But that
19 frustration itself is almost a learning
20 process for this group. And I think that, you
21 know, through that frustration we can come
22 together and try to formulate a blueprint or

1 a plan to enable us to function more
2 effectively and efficiently in a going-forward
3 basis.

4 CO-CHAIR ROSSTON: Okay. Move on
5 here to your bullet list.

6 MR. NEBBIA: So I guess one of the
7 questions here is whether at some point we
8 want to look to this group to provide that
9 feedback. We've certainly had liaisons in
10 each of the groups, and so on, that might help
11 us come to some conclusion on how that works.
12 It would probably be good for us to get past
13 this next step of reaching this smaller group
14 and see how well that produces, but we may
15 want to ask the group to come back at some
16 point and say this is what our input is. I do
17 think we're going to be faced more and more
18 with this.

19 CO-CHAIR ROSSTON: Michael.

20 MR. CALABRESE: Yeah. Michael
21 Calabrese. We should also just keep in mind,
22 I mean, this may have been somewhat alluded to

1 earlier, but also keep in mind there's sort of
2 an in-between option perhaps to have -- you
3 know, typically when we have our own
4 subcommittees, they are strictly of CSMAC
5 members, but we could perhaps -- you know,
6 whereas, at the other extreme, these five
7 working groups were set for the 1755 band have
8 been almost all outsiders with, you know,
9 CSMAC being, in a sense, facilitators and
10 monitors and synthesizers. You know, an in-
11 between thing that might be helpful in certain
12 situations, is to have a CSMAC subcommittee
13 that also involves some outside experts to
14 advise us and to participate, but keeping it
15 more within our framework and under our
16 control rather than risking that we're just a
17 rubberstamp for, you know, or -- or a
18 laundering mechanism for some truly outside
19 process.

20 DR. BORTH: So this is Dave Borth.
21 We actually did this going back years ago now,
22 it seems like, in the interference report that

1 Dave Donovan reported on last time. We
2 actually brought in a number of people from
3 outside as part of that report to get the
4 additional inputs that we needed.

5 And, if you look carefully, they
6 wrote sections of that report and then
7 subsequently by us by the CSMAC members, but
8 that came in that way. So it can work that
9 way. It's a different mechanism.

10 MR. DOMBROWSKY: This is Tom
11 Dombrowsky. I just wanted to chime in. I
12 think the one thing we've heard from DoD is
13 they have not been enamored of discussing
14 things much at all through the CSMAC working
15 group process because they think it's attached
16 to CSMAC, therefore it's a public process,
17 therefore they can't control the information.
18 So just sort of a voice of what we heard from
19 DoD in terms of that and what their concerns
20 seemed to be.

21 So I think I certainly support the
22 idea and I just think we need to ensure that

1 DoD is going to be participating to the extent
2 we put together a framework.

3 CO-CHAIR FONTES: But I think
4 that's part -- this is Brian -- I truly agree
5 with you, Tom. I think it's important then.
6 If there is the stress of this group, then
7 what I've this group begins to formulate the
8 process, the blueprint that I referred to
9 earlier, that eventually will lead to a
10 greater degree of trust and participation, if
11 you will, by all parties.

12 CO-CHAIR ROSSTON: Karl.

13 MR. NEBBIA: Yes. What --

14 MR. REASER: This is Rick back
15 here. I -- if only found a way it's possible
16 to clear people, then you could solve that
17 problem. I put together my own stack of
18 executive folks, and I was able to get people
19 clear that were just having criticism. I mean
20 certainly the SCUs and all that. What I found
21 out is that there's all sorts of avenues to
22 get people cleared. The issue on clearance

1 for contractors is storage at their facilities
2 and those kinds of things. If that's
3 something that's ruled out, I mean just
4 clearing the individual to participate in the
5 thing, there is a lot of other kind of burden
6 of things that go on with being a cleared
7 Defense contractor or any contractor. Because
8 remember Defense is not the only place that
9 has security clearances. So what I want to
10 say is I think it's possible to do something.

11 CO-CHAIR ROSSTON: So I think what
12 we want to do is -- it seems like there is a
13 possibility of when we get through this wave
14 of the working groups, having a subcommittee
15 of the CSMAC look into this and to develop a
16 long-term framework, recommendations for how
17 we might work together. And I think this has
18 been a useful discussion. And I think we sort
19 of move onto the next item on the agenda, but
20 this has been really useful to give ideas
21 about what to do.

22 MR. STRICKLING: I think that's a

1 great idea. This is Larry Strickling. I
2 would hope that at the end of this we'll give
3 everybody a chance to kind of think through
4 the entire process and make suggestions for
5 how we improve it. We've identified this as
6 an important one that we need to solve, but
7 we're going to be very interested in hearing
8 every reaction to the whole operation and
9 finding ways to improve it as we move forward
10 to try and standardize it and institutionalize
11 it.

12 CO-CHAIR ROSSTON: Thanks.

13 USE OF GENERAL OCCUPANCY MEASUREMENTS

14 MR. NEBBIA: Okay. Next topic we
15 wanted to introduce is the use of general
16 occupancy measurements. We have been looking
17 at ways to understand how the government uses
18 the radio spectrum. We've had a lot of
19 conversations internal to this group about
20 potential data access methods. And the
21 question has come up again whether if we can't
22 give data from the databases over in the

1 decision process, is there a way that spectrum
2 occupancy measurements can be used to support
3 the ongoing policymaking and decisionmaking
4 processes in spectrum management.

5 It's obvious like we're doing
6 right now in 1710 to 1755 -- or 1755 to 1850,
7 excuse me, if you have a specific band you're
8 looking at, you can go out and do occupancy
9 measurements to help you resolve issues within
10 that specific band. But if you're looking
11 more broadly for where the opportunities are
12 and what technologies you might want to
13 develop, is there a place for, you know, more
14 generalized spectrum occupancy measurements in
15 this process. And how would we go about doing
16 that, what would be the best approach to take
17 in doing that.

18 And, on one hand, we've heard
19 cases from a company in the U.K. that put
20 monitoring devices, basically, in, I think it
21 was, U.S. -- or taxi cabs in the U.K. And
22 they drove around monitoring the signal levels

1 with these things in their trunks. And but I
2 think they were pretty much limited to some of
3 the broadcast bands, where you might expect to
4 be able to measure by putting a box in a trunk
5 and sticking -- or a boot, sorry, over there
6 -- and sticking an omnidirectional antenna of
7 some sort up out of the top of the car. That
8 approach wouldn't necessarily work in a lot of
9 the bands that the government uses.

10 I know that Mark McHenry, one of
11 our members, has noted in the past, he's gone
12 out and run measurements and not seen
13 anything. But I don't really know how those
14 measurements were taken and whether I would
15 have expected to see something, using them.
16 We're now measuring those same bands at 1755
17 to 1850 and, as stated earlier by Mark Gibson,
18 they are seeing something, are recording
19 something.

20 So I think the question is what --
21 you know, how can we use or should we use
22 general occupancy measurements to inform

1 spectrum decision/policymaking.

2 MR. STRICKLING: This is Larry.

3 I'd just add to Karl's statement that I think
4 for today's discussion we're not interested in
5 what's the right way to go collect the
6 information, but I think it goes to Karl's
7 threshold question which is is this useful to
8 people. And then we can figure out how we
9 might actually approach the problem. There's
10 been a lot of interest in this inside the
11 Administration. And there is a possibility
12 there might be a small amount of money
13 available in 2014 to do some pilots on this.
14 And so we're just trying to think through what
15 the goals of this exercise ought to be and how
16 do we make sure that we are designing
17 something that industry is going to find
18 useful at the end of the day.

19 CO-CHAIR ROSSTON: Michael.

20 MR. CALABRESE: Yes, Michael
21 Calabrese. You know I would certainly defer
22 to -- on much of this to folks like members of

1 the Committee like Dennis Roberson, who's
2 doing this all the time, obviously with his
3 spectrum observatories; and Mark McHenry, who
4 did one of the first such studies from our
5 rooftop, actually, in Dupont Circle years ago,
6 and brought some attention to the issue.

7 But, yes, I think it's really
8 very, very important that we should find a way
9 to do this. It just seems to provide such
10 important information. I mean it dovetails
11 perfectly, it seems, with the PCAST report and
12 recommendations, because the PCAST is saying
13 just -- this would be just one example, but
14 it's a very good example, they're saying,
15 well, there's this 1,000 MHz from 2.7 to 3.7
16 which is mostly federal use, seems to be
17 mostly under utilized. But the PCAST really
18 has no corroborating evidence on that, I mean
19 other than to sort of put some citations and
20 footnotes to Dennis's work and Mark's studies
21 for National Science Foundation.

22 And so it would just really be,

1 you know, not only better to have more
2 substantial information but also to have
3 something that the government could feel
4 confident, some data along these lines the
5 government could feel confident in because
6 they participated in doing the measurements.

7 And even if we just looked at
8 1,000 MHz like that, it would be very
9 worthwhile, it could be designed maybe
10 specifically to look for things that answer
11 the criticisms of work that people like Mark
12 and Dennis have done in terms of what we might
13 be missing.

14 And I would think in terms of --
15 you know, Larry said don't get into all the
16 mechanisms, but I know OFCOM has a lot of
17 experience doing it through -- again, on a
18 mobile basis through --

19 MR. POVELITES: That's what Karl
20 was talking about, yes.

21 MR. CALABRESE: Yes. But then
22 there's also -- you know, given that there's

1 government buildings everywhere, mounting
2 antennas, that's the sort of thing I know
3 Dennis has experience with, and it would seem
4 like it would be marginal cost, considering
5 both -- you know, when you combine the -- that
6 you have the sites with WiFi, to aggregate the
7 data, it seems really worth exploring.

8 DR. KAHN: This is Kevin. I think
9 it would be particularly interesting if you
10 could get that now in a credible way, then
11 have the particular resources to bang it
12 against your allocations and whatnot
13 internally that are not public and ask the
14 question, well, you know, on the one hand, we
15 think there's lots of folks in the government
16 who have said they're using it, but the data
17 sort of suggests that there's a lot of folks
18 not using it, and where does it disconnect.

19 I mean because, again, I come back
20 to this from a trust perspective, right. I
21 mean in a situation where there's this
22 anecdotal information that floats around in

1 the open community about, wow, you know,
2 there's all this government spectrum nobody's
3 using it, but you go out and measure it. You
4 know, when you bang that against, well, and we
5 can't really say anything about it, it creates
6 that sort of assumption of distrust, oh, well,
7 they're just not willing to tell us.

8 Whereas if you do something a
9 little more structured and then do the kind of
10 back-end analysis, yes, okay, you're not
11 saying this place subband, but, yes, there
12 really are things there and you just can't see
13 them because of characteristics about when
14 they're in use, but they need to be in use at
15 any time, et cetera, so don't look there.
16 We've verified that there's really stuff
17 there, but, you know, oh, this other stuff.
18 Yes, you know, you may be right. You know,
19 you could get a little more open dialog, which
20 would improve, I think, the -- I don't know,
21 the way in which people approach the question,
22 I guess.

1 CO-CHAIR ROSSTON: This is Greg
2 Rosston. So I like the idea of finding out
3 what people are doing with the spectrum, but,
4 as an economist, one of the key questions is
5 what's the value of their use of the spectrum.
6 So we might have channel 34 is using
7 television all day long and it's doing home
8 shopping that is not very valuable, but it's
9 broadcasting 24 hours a day. And we don't
10 know, you know, hey, that's not worth very
11 much, but it's being used a lot. And other
12 stuff may be not be used very often, but when
13 it needs to be used it's extremely valuable
14 because it's protecting homeland security, or
15 something like that.

16 So we want to make sure that we
17 don't just focus on general occupancy
18 measurements, but we look at what's the value
19 of the use and the need for priority of use --

20 MR. STRICKLING: So we'll wait for
21 you economists to design a measurement tool
22 that will capture that.

1 CO-CHAIR ROSSTON: It's called an
2 auction.

3 (Laughter.)

4 CO-CHAIR ROSSTON: Yes, we
5 designed it. It's no problem; it's the
6 market.

7 DR. KAHN: It's great when --

8 MR. GIBSON: This is -- this is
9 Mark Gibson --

10 DR. KAHN: -- that are sitting on
11 a channel just so they get bus-carry rights.

12 CO-CHAIR FONTES: This is Kevin
13 talking.

14 Go ahead, Mark.

15 MR. GIBSON: Yes. I would add to
16 what Greg just said and say that that's what
17 we're finding with the measurements we're
18 doing now, is that the -- you know, for
19 example, the HTT systems, the time of
20 occupancy may not be long, but we've heard
21 from, in no uncertain terms, from the owners
22 of those equities that they need it when they

1 have it.

2 I would also add, I know what
3 Larry said about not wanting to dig into a
4 methodology, but in order to get meaningful
5 results you need to do it over a sufficiently
6 long period of time and a sufficiently diverse
7 area. I know Dennis has the observatory and
8 it's a couple of pretty high sites, and
9 they're very telling. But you might go and
10 look at the DARPA last summer had a
11 solicitation called radio map where they tried
12 to deal with this issue on a realtime basis
13 looking at how you would use measured data in
14 an urban environment to identify where things
15 are operating. And the idea would be to take
16 measured data through a distributed network
17 and then use a bunch of informational
18 resources, including databases and spectrum
19 analysis and spectrum signatures, to identify
20 what is operating, the operational parameters,
21 and essentially sort of add value to the
22 database that you may already have.

1 So those are some key things to
2 think about. The CRFS work that they're doing
3 which is, by the way, the gear that we're
4 using for the monitoring effort for the stuff
5 we're doing now, they put it in several types
6 of vehicles. And you can see the results and
7 they're very telling, but he also indicated
8 they were only over a short period of time.
9 I think it was several months. And so in
10 order to really get a good correlation to any
11 sort of anomalous check, you want to make sure
12 you do it over a long period of time.

13 MR. NEBBIA: So, Mark, one of the
14 things from my standpoint I think presents
15 some issues is that there are certain types of
16 systems that, for instance, the aeronautical
17 telemetry operations, for which the people
18 that do it are using a specifically-designed,
19 high-gain antenna to get the data back from
20 long distances away. They know where the
21 aircraft are, so they're actually directly
22 tracking them and then able to pull that data

1 down.

2 How do you see something like that
3 being -- you know, those types of operations
4 being reflected in some sort of general
5 occupancy measurement?

6 MR. GIBSON: Well, you know that's
7 the problem I think with the details versus
8 the concept. The situation with AMT is the --
9 and this is sort of trying to correlate with
10 what receive in terms of energy to how you can
11 transmit in that energy in that space. And
12 with AMT what you have is a tracking, high-
13 gain tracking antenna, and the AMT community
14 is worried about when that antenna is pointing
15 toward the ground for aircraft fairly far
16 away. You have to try reverse or reciprocal
17 considerations, I mean which is part of the
18 analysis, but what it means is that you need
19 to know a little bit more about what you're
20 seeing there. And so I think it speaks to
21 what you need to put together in terms of a
22 test plan with specifically what you're trying

1 to find out, because no one will disagree that
2 just a bunch of waterfall curves without
3 anything telling you what they're doing is not
4 going to be very helpful.

5 DR. KAHN: Well, this is Kevin.
6 That's why I said, you know, whatever you get
7 out of occupancy you then have to bang back
8 against the known allocations that exist in
9 order to, you know, have a real understanding
10 of what -- are you seeing no occupancy because
11 you're not looking in the right way or because
12 the occupancy is intermittent but incredibly
13 important or are you seeing no occupancy
14 because somebody's got an allocation they're
15 just not using.

16 MR. DOMBROWSKY: Karl, this is Tom
17 Dombrowsky again. At ISART last summer ITS
18 presented a number of data, of amount of data
19 that they had been monitoring different bands.
20 And, I don't know, they said they had to do
21 some back-channel checking with the parties
22 and all that to sort of determine if that

1 measurement data was useful or not useful, but
2 I just know we haven't heard more about that
3 process. And maybe that's at least a first
4 step in this direction too.

5 MR. NEBBIA: Well, I mean
6 certainly ITS over the years has done a good
7 number of general occupancy measurements.
8 They in the past have been used to determine
9 in the federal land mobile bands what the
10 occupancy levels were on major events like the
11 inauguration. But even in that case you're
12 still talking about a fairly small band.
13 They're looking for specific kinds of systems.

14 The broader the measurement goes
15 the bigger the challenge is in creating a
16 measurement system that will see what you want
17 to see in each of the bands that it scans
18 through. And, as Mark knows, the longer you
19 look the better or more complete your results
20 are going to be.

21 But ITS does have some real
22 experience in doing specific radar-oriented

1 measurements. And I think a part of what was
2 interesting in the work that they showed at
3 ISART last year is that they actually measured
4 some of the radar spectrum above 3.1 GHz in
5 the San Diego area and they actually saw the
6 Navy ships coming into port on the basis of
7 their radar operations. And these are some of
8 the radars that we would be dealing with at
9 3.5 to 3.6 GHz through this next rulemaking
10 effort.

11 So they do have some specifics
12 there, but I can guarantee you that the
13 approach they take to measuring those ranges
14 is quite different than what you would use in
15 a broadcast band or a land mobile band, but
16 they do have a lot of experience there.

17 MS. OBUCHOWSKI: Can I ask you,
18 Karl -- can you hear me? I don't know if --

19 MR. NEBBIA: Is that Janice?

20 MS. OBUCHOWSKI: Janice.

21 MR. NEBBIA: Oh, yes. Yes.

22 CO-CHAIR FONTES: Yes, we can hear

1 you.

2 MR. NEBBIA: We recognize you.

3 MS. OBUCHOWSKI: Can I ask you,
4 Karl, how you would -- what are the limits of
5 that occupancy deliberations? Because if you
6 look at the way the table of allocations
7 works, of course it reflects when government
8 has that option to use the spectrum. And I
9 guess part of it is the -- we've already
10 covered in the discussion that if you use a
11 long enough period you get some really more
12 relevant data.

13 But I have to say I think there
14 are some pretty material limits to this
15 discussion given the kinds of services that
16 are allocated. You know I've heard a lot of
17 commentary at this meeting about sort of
18 people's skepticism about the government.
19 I've seen a lot of cheap shots in the press
20 that don't have a whole lot to do with data or
21 not. It's just a point of view that resonates
22 in the public policy environment. And I'd be

1 concerned with this particular work if that's
2 the way it actually played out.

3 MR. NEBBIA: Well, I think
4 certainly from our standpoint, if we were to
5 be involved in it we would be specifically
6 trying to ensure that the kinds of things the
7 government does were reflected accurately. I
8 think if you get a group out there that's
9 strictly looking for openings in the spectrum,
10 they will find them by not looking in the
11 right direction. So I do think we're looking
12 for ways that we can agree together to do
13 general occupancy type measurements and what
14 value there would be.

15 I know at times people have asked
16 me, well, what would you do if you were
17 measuring a government band and you get this
18 data, what would be the releasability of that
19 information, and I think that's something that
20 would have to be looked at. But we, at the
21 same time, have to recognize that if anybody
22 had the same equipment, they could go out --

1 DR. KAHN: Yes.

2 MR. NEBBIA: -- and run those
3 measurements and provide the measured
4 information anyway. So, in fact, right now we
5 did spend quite a bit of time working with
6 industry and government together on the 1755
7 to 1850 band, but certainly a company could
8 have gone outside any of these locations and
9 set up equipment and tried monitoring.
10 Hopefully, because I think of the dialog
11 that's gone on, the monitoring will prove
12 better and provide better results. But I
13 think the key here is, Janice, we've been
14 looking for a direction to go that we think
15 would support accurate reflection and
16 reporting of the use. Certainly we would have
17 to deal with whether those measurements
18 reflected things that shouldn't be made
19 public. I think we'd have to wrestle with how
20 that's done.

21 CO-CHAIR ROSSTON: Okay. Karl, do
22 you want to --

1 MR. NEBBIA: Okay. So we'll be
2 looking for more input over time. I know
3 Dennis wasn't able to be on today, I think as
4 I recall the list we went through, and I know
5 he's got a lot of experience. So we'll
6 probably be coming back to this as a subject
7 to help us work through that.

8 PROVIDING GOVERNMENT GREATER FLEXIBILITY
9 AND MORE OPTIONS THROUGH ACCESS
10 TO NONFEDERAL BANDS

11 MR. NEBBIA: The next item I
12 wanted to talk about is, and this is of great
13 interest to the federal agencies, they are
14 indicating that as we look to share more, as
15 we look to give commercial entities greater
16 access to bands that the federal government is
17 operating in, they also would like greater
18 flexibility to look in the opposite direction.
19 So I thought this would be a subject that all
20 of you could agree to and that you think this
21 is a good idea, we should write a
22 recommendation here today, and move this idea

1 forward.

2 But I'm interested in your initial
3 thoughts on that idea. They felt like there
4 was at least some upfront material in the
5 PCAST report that said while we're looking at
6 federal bands in this report, but there's no
7 reason why it couldn't be applied in another
8 direction. So we're kind of interested in
9 your thoughts on that.

10 DR. KAHN: This is Kevin. I would
11 be thrilled to see the federal government use
12 more commercial systems --

13 MR. NEBBIA: That's a slightly
14 different subject, Kevin.

15 DR. KAHN: Well, but -- well, not
16 -- yes and no. I mean in the unlicensed case,
17 that means utilizing unlicensed technology off
18 the shelf to accomplish their mission. And I
19 think there are a lot of places where, in
20 fact, the government should be more actively
21 looking at utilizing that sort of thing. And
22 that is not a question of cutting a contract

1 with Verizon or somebody to use cell services,
2 which is a separate issue, but it is the case
3 that there's some very highly developed and
4 very cheap technology available in the
5 unlicensed world that provides a lot of very
6 good short-range broadband coverage, and I
7 think more use of that would put the
8 unlicensed folks and the government users and
9 unlicensed folk on the same side of some of
10 these, which would be terrific.

11 I also think that in the
12 commercial services side that either building
13 compatible systems, you know, you had another
14 operator or better utilizing commercial
15 services is actually a very effective way to
16 get what I call mundane traffic off of special
17 allocations. And I think a lot of what we
18 think of as public-safety kind of stuff is to
19 a large degree mundane traffic if it's handled
20 in the right prioritized way, so.

21 MR. TRAMONT: This is Bryan.
22 Following up on Kevin's not directly

1 responsive but some interesting observations
2 about this problem category, you know I think
3 that one thing I'd be really interested in
4 exploring is is there a way to look at ways in
5 which the commercial spectrum option is a
6 lower cost alternative for the federal
7 government users to solve their mission-
8 critical needs, including potentially as a
9 lessee for a commercial-government system. So
10 we've gone through a lot of that process
11 around the OMB Circular A-11 process in trying
12 to incorporate the costs of spectrum as a raw
13 material into this, is there a way to allow
14 the federal users to have access to funds that
15 would allow them to do leases, as the
16 commercial guys do, or commercial spectrum use
17 for their individual systems that could take
18 advantage of some of the scale economies that
19 Kevin just pointed out.

20 This is the same kind of
21 flexibility I think that the commercial guys
22 would like to see on the federal government

1 use, situations where they might be able to
2 lease. And we -- I think both institutions,
3 the FCC and NTIA and the federal government
4 should look at whether or not the current
5 system of spectrum allocation and service
6 rules unduly limit the ability for spectrum to
7 flow in both directions. Because I think in
8 a lot of cases we've had real hits, regulatory
9 barriers to that kind of efficient exchange
10 between federal government users and
11 commercial users to ensure that both get the
12 most out of this.

13 So I think there's some
14 interesting barriers to this process that
15 should really be explored on both sides that
16 could actually really facilitate more
17 efficient spectrum use by each.

18 MS. OBUCHOWSKI: I would support
19 what Bryan says. And as we're looking at an
20 era of tighter budgets, certainly on the
21 government side, everything from commercial
22 space to LTE to unlicensed, there's no reason

1 why those systems that are built originally
2 with an eye to the commercial domain could not
3 offer up their economies of scale also to the
4 federal user. So it's a worthy topic.

5 CO-CHAIR ROSSTON: Michael
6 Calabrese.

7 MR. CALABRESE: Yes, Michael
8 Calabrese. Yes, I agree it's an important
9 topic, to see how this could, you know this
10 sharing of under-utilized spectrum bands could
11 run both directions, because it seems that
12 there's a number of upsides, one being to the
13 extent that certain spectrum that's not being
14 used could serve a federal purpose, then
15 there's not more federal spectrum being
16 occupied. And it may make some of these
17 reallocations or other sharing more feasible.

18 It also can create a virtuous
19 cycle, I mean I think in relation to what
20 Kevin said, it could be that sharing on a
21 commercial band could lead to using more
22 commercial equipment and systems. And I

1 mention this as a perhaps mundane example but
2 it's maybe part of this, in the comments we
3 filed just yesterday with the FCC on the 3550
4 and 3650 band, the PCAST short-term
5 recommendation, one of the things they were
6 asking about the priority access tier and who
7 should be eligible for that. They talk about
8 mission-critical uses, and they asked should
9 the federal government be able to get
10 interference protection for their own indoor
11 uses. We said yes, you know, emphatically,
12 let federal agencies get priority access for
13 indoor use, because, for one thing, what that
14 would do is that would give them access to
15 this off-the-shelf equipment that's developed
16 for the commercial small cell industry that we
17 hope would develop on this band and it would
18 hopefully encourage more spectrum sharing on
19 the federal side because they would be
20 realizing some of the benefits of developing
21 these shared-band relationships.

22 So, yes, I think it's a promising

1 area of study.

2 MR. NEBBIA: Well, I mean one of
3 the areas that the agencies have specifically
4 shown interest in is that there's a number of
5 locations around the country where at least to
6 their report there's not much service being
7 provided. And they would like to be able to
8 do either electronic warfare type testing, as
9 we talked about before, or they would like to
10 be able to provide their own internal network
11 and operate in those facilities.

12 In some cases maybe even using the
13 same kind of equipment that's used in the
14 commercial world, so you might be able to
15 operate on the large training facility or test
16 facility using this technology. And as you're
17 driving off the base, you pick up the
18 commercial network and you continue on. That
19 would require some kind of handshakes between
20 those networks, but one of the things they
21 meet with now is that of course the Commission
22 has essentially licensed or auctioned the

1 entire country. And every time they want to
2 make use of what appears to them to be
3 completely unused, they're told, please ante
4 up some money. We purchased that. It's ours
5 and you shouldn't be -- even though we're not
6 using it at all, you shouldn't be using it
7 unless you're willing to pay us something, so
8 --

9 MR. CALABRESE: Well, this is
10 Carl. I think there are discussions ongoing
11 consistently with various sites on how they
12 use that spectrum efficiently and use it at
13 all. And I just caution oftentimes the
14 ability to provide service is somewhat hung up
15 by the ability to put up towers and everything
16 else to serve that area. And so as long as --
17 that has to be part of the discussion too, is
18 how do you make sure that the licensee is able
19 to put up facilities that they need to serve
20 better.

21 DR. KAHN: But -- this is Kevin.
22 That's part of what I was trying to refer to

1 when I first commented on this, was that there
2 are large tracts of the U.S. that are not
3 particularly served by commercial operators
4 because there's no commercial motivation to
5 serve most of that space. And if the
6 government has a need to be providing
7 communication services for its own purposes in
8 those tracts, I think it would be in fact
9 terrific if they adopted commercial standards
10 and were able to figure out the licensing
11 issues to run their own essentially equivalent
12 network in those spaces and hopefully with the
13 kind of hand-off contracts and agreements that
14 would allow that to make sense, not just
15 because it would provide the government with
16 cheaper equipment, because they're using
17 equipment that's being bought by the masses,
18 but because it would also mean that that
19 motorist who wound up someplace in the middle
20 of a national park because he followed a
21 broken GPS, would suddenly discover that when
22 he picked up his cellphone, that there

1 actually was a network out there that he could
2 tap into in a bizarre way because the National
3 Park Service or somebody was running some
4 coverage out there.

5 I mean I think there are
6 collateral benefits, is what I'm saying, to
7 getting as many people as possible on common
8 communication systems, where that makes sense.
9 And I would think it would be great if the
10 government was interested in trying to do that
11 kind of thing.

12 Now obviously there's issues with,
13 you know, who owns the spectrum or has the
14 rights to the spectrum and what kind of
15 commercial agreements have to be made, but I
16 would hate to see a requirement to further
17 lease the very spectrum back be the blockade
18 to that. I mean I think that would be a
19 mistake if it's not being utilized.

20 MR. SUGRUE: Hello. This is Tom
21 Sugrue. I mean maybe there would be
22 mechanisms for us to trade our unused for the

1 federal government's unused. And if they
2 match up geographically, if there's some legal
3 ability to do that, then there could be some
4 deals that could be made.

5 CO-CHAIR FONTES: That's an
6 option.

7 MR. NEBBIA: Got some cold, hard
8 cash here today, Tom, and work a deal.

9 (Laughter.)

10 MR. SUGRUE: We've been trying for
11 years to give you some cold, hard cash, and
12 you --

13 MR. NEBBIA: I know. You know
14 we're not allowed to take it, so.

15 CO-CHAIR ROSSTON: But we did have
16 coffee and pastries.

17 FCC - TECHNOLOGICAL ADVISORY COUNCIL

18 WHITE PAPER - INTERFERENCE LIMITS POLICY

19 MR. NEBBIA: Okay. One last
20 subject I wanted to raise, just ask for any
21 thoughts that the committee had on the FCC's
22 white paper coming out of the TAC dealing with

1 receiver standards and so on.

2 DR. KAHN: Where's Dale when you
3 need him.

4 MR. NEBBIA: Yes, where is Dale
5 today.

6 MS. OBUCHOWSKI: Well, I wanted to
7 just generally compliment, I have to say I'm
8 not tremendously knowledgeable about the white
9 paper, but I think the TAC in general has been
10 doing very good work to advance the cause and
11 has kept it very substantive and in a lot of
12 different directions. So at some point it
13 might be good to have our committee briefed by
14 the TAC and vice-versa.

15 DR. KAHN: There's a number of
16 folk involved there. There's some common
17 faces we see.

18 MR. NEBBIA: Okay. Certainly one
19 of the challenges I see in trying to -- I mean
20 certainly it seemed to me to be oriented
21 around a little bit more of a voluntary
22 approach where people came to understand what

1 the receiver characteristics needed to look
2 like in order to get protected. Maybe that
3 sort of approach. And if you chose not to
4 live within that structure, then you went
5 forward, but you just didn't get protected in
6 the operation you have.

7 I think one of the challenges of
8 course is system by system that tends to vary
9 and therefore you have to go through that
10 determination over and over again. I know
11 we've had some discussions before on the
12 challenge of trying to determine what
13 constitutes harmful interference for any
14 particular operation. And that's been very
15 difficult to do given all the different types
16 of systems, all different types of operations.

17 So any other thoughts?

18 MS. OBUCHOWSKI: Karl, I have one
19 more topic I wanted to raise as a possible --
20 I don't know if it would be -- well, it is a
21 discussion point going forward. One of the
22 issues that is going to be chronic going

1 forward of course is the budget. And much of
2 the research -- or much of the work the
3 government gets to do for clearing is tied to
4 auction revenues.

5 And, as you know, I think there is
6 a statutory problem that a lot of this just
7 gets freed once the auction has been had. I
8 think we've discussed this before at the
9 CSMAC. I'd like to see the CSMAC, and it's
10 really not a technical question, but maybe
11 request some input from OMB as well as
12 companies as to how can the government get
13 some funding for the technical work associated
14 with some of these good, new ideas.

15 And one of the categories of
16 course is unlicensed, the 5 GHz, as the press
17 would have it, typically victory is declared
18 before the studies are done. I believe my
19 issue in this 2003, I'm happy to see how much
20 good is happening in that band, but it's not
21 without complexity, and yet that research, I
22 don't think, you know, gets funded -- I mean

1 it doesn't get funded out of any extraordinary
2 commercial sums, that's for sure. So I'd just
3 like to table that, because going forward
4 money will be scarce all around.

5 MR. NEBBIA: Well --

6 MS. OBUCHOWSKI: You can only have
7 so many Ed Drocellas, who probably cloned
8 himself. They're like -- he does the work of
9 ten. But we need a lot of technical work to
10 get this job done going forward, and I'm not
11 sure that it can be tied exclusively to
12 auctions that are successful.

13 MR. NEBBIA: Right. Certainly the
14 change in the law did not incorporate funding
15 for agencies to deal with sharing if it wasn't
16 tied to an auction. So in that way if we were
17 creating a band like at 5 GHz where we're
18 going to potentially increase the use of
19 unlicensed, there wasn't a mechanism included
20 in the law that would, in the end, reimburse
21 agencies for the amount of work they did in
22 sharing and follow-up work once the changes

1 are made.

2 And on the side where there are
3 auctions going to be present, of course there
4 is not an ability to get the money up front at
5 least until there is a transition plan in
6 place, I think is the way it's linked in the
7 law right now. So in that I think we had some
8 discussion on last time.

9 Neither of those is really kind of
10 an open priming of the pump in terms of
11 research. They're certainly set up for when
12 you're really focused on what answers you're
13 getting and how -- what you're going to use a
14 specific band for. They're not an open
15 opportunity for research. And I think some of
16 the members before had referred to a spectrum
17 innovation fund concept that was raised here
18 earlier. And I think our current construct is
19 not that. It's not oriented toward
20 stimulating new research.

21 MS. OBUCHOWSKI: Well, I'd like to
22 just put on the table as a possible topic

1 going forward getting some input on possible
2 ways to fund some of this forward-looking.
3 And some of it's radical innovation. Some of
4 it is simply hard number crunching, but it's
5 costly. And some of that -- you see that in
6 what's going to have to happen now in the 5
7 GHz band. We know the direction that the
8 government wants to go in with unlicensed, but
9 we don't know how far it can go. And a lot of
10 testing's going to have to happen, and I don't
11 think any of that's funded.

12 So, anyway, I'd like to put that
13 on the table. And there are a probably a
14 variety of scenarios. And I know that was one
15 that was raised, is spectrum innovation fund.
16 There may be others.

17 MR. NEBBIA: Well, I hear by March
18 1st everything's going to be resolved on the
19 budget, so we may not have to come back to
20 this.

21 (Laughter.)

22 CO-CHAIR ROSSTON: Okay. I'm not

1 used to getting back on schedule in this
2 direction, but I think we got back on
3 schedule.

4 MR. NEBBIA: Yes, sir. I knew we
5 had more to talk about than we had time for.

6 CO-CHAIR ROSSTON: As Pepper talks
7 about the FCC commissioners being like a gas,
8 they fill to expand the time that is available
9 to them, we seem to have done that as well.

10 Anyway, the opportunity for public
11 comment -- or, first, anyone else from the
12 Committee want to say anything?

13 MR. SNIDER: Hello.

14 CO-CHAIR ROSSTON: Yes.

15 MR. SNIDER: Jim Snider.

16 CO-CHAIR ROSSTON: Jim, just a
17 second.

18 Is there anyone on the Committee
19 who would like to make a final comment before
20 we go to the public comment?

21 (No audible response.)

22 OPPORTUNITY FOR PUBLIC COMMENT

1 CO-CHAIR ROSSTON: Okay. Jim, if
2 you have a short and pertinent-to-our-
3 discussion-of-today that would be great.

4 MR. SNIDER: Yes. Well, one is on
5 the second Working Group Report. I didn't see
6 it online and I was wondering what was
7 approved today, as I understand, what is the
8 plan for making it available?

9 CO-CHAIR ROSSTON: It is online,
10 and it's on the CSMAC website. I know because
11 I pulled it down yesterday. So I think you
12 can find it online.

13 MR. NEBBIA: It was presented as a
14 meeting document for the last meeting, Jim.

15 MR. SNIDER: Yes, I don't see it
16 on this meeting website. That's what I'm --
17 is it on the current website? I'm looking for
18 today's meeting and I see the final report for
19 Working Group 1, I see a Status Report for
20 Working Group 3, but I don't see the final
21 approved report for Working Group 2. So
22 you're saying it's somewhere else?

1 MR. NEBBIA: It was presented at
2 last month's meeting, so that's where it's
3 located.

4 MR. SNIDER: Okay, fine.

5 CO-CHAIR ROSSTON: It was
6 presented at the last month's meeting.

7 MR. SNIDER: And then I have
8 another question. Larry made the comment that
9 he would welcome comments to improve the
10 process. And I think a more welcoming
11 environment for members of the public, a
12 little less intimidation, I think the public
13 participation speaks for itself, but that's my
14 recommendation. You can laugh at, ridicule
15 it, whatever you want, but if you do want
16 public participation, it's harmful if you
17 ridicule it and there's also a culture of
18 intimidation and also on occasion not
19 following the spirit and the letter of the
20 FOIA and the FACA laws, which is a problem if
21 you do want to encourage meaningful public
22 participation.

1 CO-CHAIR ROSSTON: So, Jim, --

2 MR. SNIDER: Those are my
3 comments.

4 CO-CHAIR ROSSTON: Thank you very
5 much. I do want to say that these working
6 groups seem to have had incredible public
7 participation. And we welcome that public
8 participation and want to do that. And we
9 think it's an important piece of this.

10 Okay. Is there other public
11 comments?

12 Yes, we have someone in the room.
13 Yes. You want to come over closer so we can
14 all hear you. That would be great. Thank
15 you.

16 MR. NEBBIA: And please give your
17 --

18 CO-CHAIR ROSSTON: Identify
19 yourself as well.

20 MR. SIMMEN: I'm Robert Simmen. I
21 have a three-minute statement that may apply
22 to the discussion of trusted agent.

1 CO-CHAIR ROSSTON: Okay.

2 MR. SIMMEN: It's a prepared
3 statement and I have hard copy for the
4 Committee.

5 CO-CHAIR ROSSTON: Okay.

6 MR. SIMMEN: I'm Robert Simmen,
7 president of I3 Corporation, a small business
8 defense contractor and former regional
9 director of the Association of Old Crows, AOC.

10 I've been authorized by the AOC's
11 national leadership, led by retired Lieutenant
12 General Robert Elder, to represent the AOC at
13 today's meeting of the CSMAC. The AOC is a
14 501(c) not-for-profit organization that has
15 over 11,000 members here in the United States,
16 plus thousands more worldwide. We are the
17 industrial designers, manufacturers, and
18 military users of electronic warfare systems.
19 We believe in maintaining a national defense
20 with a special focus on control and
21 exploitation of the electromagnetic spectrum.
22 And we have conducted several studies in the

1 past utilizing classified information that has
2 provided general distribution to both
3 government and industry.

4 Our message here today for the
5 CSMAC is threefold as follows:

6 Firstly, once a band of
7 frequencies in the RF spectrum, such as the
8 1755-1850 is reallocated, rarely if ever will
9 our warfighters be given those frequencies
10 back for training, testing, and so forth. The
11 irreversible nature of the proposed
12 reallocation needs to be kept in mind.

13 Secondly, sharing of this
14 frequency band with commercial private
15 enterprise, while not impossible, will require
16 some sort of command and control process, and
17 monitoring and notification capabilities that
18 will require resource investments by both the
19 government users and private commercial firms.
20 We understand that close to \$100 million has
21 been appropriated for DISA to enhance the
22 capabilities that could in part, but not all,

1 be part of a potential solution. For example,
2 Spectrum Twenty-One Online and Spectrum
3 Technology Tested Initiative, or STTI. This
4 would enable working sharing of the 1755 to
5 1850 MHz band.

6 We in the AOC take spectrum
7 management seriously because of its integral
8 nature to effective electronic warfare and
9 would be happy to facilitate linking to the
10 CSMAC working groups with experts in this area
11 from industry, government, and academia, with
12 classified clearance availability, who could
13 help make sharing of the 1755 to 1850 band a
14 workable reality. We understand that due to
15 the recent discussion to change to using real-
16 world data, the timeline for Working Group 3's
17 final report has been extended and so this may
18 be an opportune time to add more intellectual
19 horsepower to the problem set.

20 Third, my final comment is that we
21 in the AOC represent a vast storehouse of
22 intellectual capital in the field of

1 electronic warfare and, more broadly,
2 electromagnetic spectrum concerns with members
3 drawn worldwide from the military, government,
4 industry, and academia. We hope that NTIA's
5 CSMAC will leverage this intellectual capital
6 in future CSMAC deliberations and working
7 group efforts.

8 I would be happy to provide
9 appropriate contact information with our
10 national headquarters in Washington, if
11 requested. Thank you very much.

12 CO-CHAIR ROSSTON: Thank you very
13 much.

14 MR. NEBBIA: One quick question.

15 CO-CHAIR ROSSTON: Yes, we have a
16 question.

17 MR. NEBBIA: Have any of your
18 people actually been involved in the working
19 groups to this point? I mean they're
20 certainly open to them.

21 MR. SIMMEN: Not to my personal
22 knowledge. I would have to refer you to our

1 headquarters staff, who suggested that I
2 attend this meeting.

3 DR. BORTH: Just along those
4 lines, there's probably some members of the
5 Committee that have actually been to this
6 particular area. Many years ago I worked for
7 a company out in this area called -- and
8 Company, which was very much in this arena,
9 and I work in that arena. So there is some
10 basis for this probably, although it may not
11 be, you know, number one on somebody's r, sum,,
12 but it is there.

13 CO-CHAIR FONTES: Great.

14 MS. OBUCHOWSKI: Well, I'd like to
15 thank you, sir, for that comment. It's always
16 hard to sort of draw -- you know, we shouldn't
17 be drawing lines between spectrum management,
18 in some ways, and electronic warfare. They're
19 different sets of disciplines that are very
20 interrelated. And it does sometimes interest
21 me, and you guys have heard me say this
22 before, sometimes people take these shots at

1 DoD about being discreet with its data,
2 whereas we know there's a nationwide problem
3 with cyber theft and it's on the front pages.
4 Well, you know some of these issues are
5 somewhat aligned. And the same people that
6 might be strategically coming after our
7 networks also appreciate that the wireless
8 networks are very good ways to bring this
9 country to its knees. And I do appreciate the
10 Old Crows because they've been at the vanguard
11 of sort of highlighting that issue.

12 MR. SIMMEN: Thank you.

13 CO-CHAIR ROSSTON: Thank you very
14 much. Are there any other public comments?

15 MR. REASER: This is Rick. I just
16 wanted to say I will be -- I'm the Working
17 Group 3 liaison, or one of them. I would love
18 to have the AOC come and talk at our next
19 meeting. If that could be arranged, I think
20 that would be very welcome.

21 CO-CHAIR ROSSTON: So Karl has the
22 contact --

1 MR. NEBBIA: So we'll get you guys
2 in touch with each other.

3 CO-CHAIR ROSSTON: Yes, Karl has
4 the contact information. So I think we can do
5 that.

6 Thank you very much.

7 MR. SIMMEN: Thank you.

8 CO-CHAIR ROSSTON: Okay. Unless
9 there is anything else, I think we can stand
10 adjourned. Thank you.

11 CO-CHAIR FONTES: Thank you,
12 everyone.

13 (Whereupon, the above-entitled
14 matter went off the record at 11:59 a.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: US DOC

Date: 02-21-13

Place: Stanford, CA

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