

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,

OCTOBER 4, 2012

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The Advisory Committee met in Room 4830 of the Herbert C. Hoover Building, being the headquarters of the Department of Commerce at 1401 Constitution Avenue, N.W., Washington, D.C., at 10:00 a.m., Greg Rosston and Brian Fontes, Co-Chairs, presiding.

PRESENT:

BRIAN FONTES, Co-Chair *
GREGORY ROSSTON, Co-Chair
LARRY ALDER *
DAVID BORTH
MARK CROSBY
THOMAS DOMBROWSKY, JR.
DAVID DONOVAN

MOLLY FELDMAN
HAROLD FURCHTGOTT-ROTH *
MARK GIBSON *
DALE HATFIELD *

PRESENT (Continued):

KEVIN KAHN
DOUG MCGINNIS
MARK MCHENRY
JANICE OBUCHOWSKI
CARL POVELITES
RICHARD REASER
DENNIS ROBERSON
DANIEL STANCIL
TOM SUGRUE
BRYAN TRAMONT
JENNIFER WARREN

ALSO PRESENT:

BRUCE WASHINGTON,
Designated Federal Official
KARL B. NEBBIA

LARRY STRICKLAND
STEVE SHARKEY
DAVID LUBAR *

* Present via telephone

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

2 (10:01 a.m.)

3 CO-CHAIR ROSSTON: Welcome to the
4 CSMAC meeting. I am Greg Rosston and want to
5 -- maybe I think the thing to do is to have
6 Larry give opening remarks and then do a roll
7 call. I'll go through a list of the people on
8 CSMAC who have said that they are on the phone
9 but give them a minute to dial in. Why don't
10 you go ahead and start, Larry, and then
11 welcome people? It says, opening remarks.

12 MR. STRICKLING: So I get to
13 address the half-empty room, is what you are
14 saying. I get it. Thank you, Greg.

15 WELCOME AND OPENING REMARKS

16 MR. STRICKLING: And welcome Tom
17 Sugrue, --

18 CO-CHAIR ROSSTON: Yes.

19 MR. STRICKLING: -- who managed to
20 make it, even after his big announcement from
21 yesterday. So thank you, Tom, for coming.
22 And thanks to all of you for attending. And,

1 more importantly, thanks to all of you and to
2 the many people on your staffs who have been
3 working so hard these past months as we
4 experiment with this new idea of really
5 getting industry and the federal agencies to
6 work together to solve these very difficult
7 issues we are faced with as we try to
8 determine how we can reallocate that 1755 to
9 1850 band as well as the 1695 to 1710 bands
10 for commercial broadband service. And I think
11 we have made terrific progress.

12 We will hear the readouts today
13 from the various groups. So I couldn't be
14 happier with the level of effort, the level of
15 commitment that people have made to the
16 process. And I think it is going to be
17 reflected, not just in the progress reports
18 today but, more importantly, in the final
19 recommendations that the groups come back with
20 as they finish up their work.

21 It has been clear, though,
22 watching the process that there are a couple

1 of key factors for success that I think we all
2 have to keep in mind. And one is I think
3 making sure that the data that each site needs
4 is provided as promptly as possible.

5 I know we had an issue. And with
6 Working Group 1, I guess they were hoping to
7 get industry information that finally was
8 produced this week. And thanks very much to
9 industry for providing that, but that
10 obviously has an impact on the ability of
11 federal agencies to be able to reach
12 resolution at their end on being able to
13 support particular resolutions.

14 At the same time, I think it is
15 incumbent on everybody in the process to make
16 sure they are raising the issues early in the
17 process and making clear where they are as we
18 work our way through this so that we don't get
19 surprised at the end with someone who may have
20 been keeping their powder dry only to come in
21 at the end and say, oh, this isn't where we
22 want to be. So I haven't seen much of that,

1 but it is important I think for everybody to
2 keep that in mind as we continue to work
3 through it.

4 But overall I think the level of
5 cooperation has been outstanding. And it's a
6 process that as we next year turn to
7 developing a strategic plan for spectrum here
8 in the federal government, we really want to
9 take this experience and use this as the
10 foundation for how we approach federal
11 spectrum management in the future. These
12 industry-agency discussions, while very
13 work-intensive, I think, are a critical piece
14 to solving the problems that we have to solve
15 going forward.

16 So I think, with that, I will turn
17 it back to Greg for the roll call.

18 CO-CHAIR ROSSTON: Great. I want
19 to make sure that everyone is on the line
20 before I start talking.

21 (Laughter.)

22 OPENING COMMENTS FROM CO-CHAIRS

1 CO-CHAIR ROSSTON: So I am just
2 going to through -- the people on the phone,
3 who have said they may be on the phone, are
4 Larry Alder. Are you there? Do we hear
5 people on the phone?

6 MEMBER ALDER: Yes, I am here.

7 CO-CHAIR ROSSTON: Great. Great.
8 Michael Calabrese?

9 (No response.)

10 CO-CHAIR ROSSTON: Mark Crosby?

11 MEMBER CROSBY: Yes. I'm on.

12 CO-CHAIR ROSSTON: Brian Fontes?

13 CO-CHAIR FONTES: Good morning. I
14 am on.

15 CO-CHAIR ROSSTON: Great. I'll
16 struggle without you as my co-chair here.

17 Harold Furchtgott-Roth?

18 MEMBER FURCHTGOTT-ROTH: Yes, I'm
19 here.

20 CO-CHAIR ROSSTON: Mark Gibson?

21 (No response.)

22 CO-CHAIR ROSSTON: Dale Hatfield?

1 MEMBER HATFIELD: Yes. I'm here.

2 CO-CHAIR ROSSTON: Mark McHenry
3 says by phone, but I think you are here in
4 person.

5 (Laughter.)

6 MEMBER McHENRY: No. I'm on the
7 phone.

8 CO-CHAIR ROSSTON: Are you on the
9 phone, too? Are there any other members?
10 Charlie Rush?

11 (No response.)

12 CO-CHAIR ROSSTON: Any other
13 members on the phone?

14 (No response.)

15 CO-CHAIR ROSSTON: Okay. I just
16 wanted to reiterate, sort of expand a little
17 bit on what Larry said. And I have been very
18 impressed with all of the amazing amount of
19 work that everybody has been doing on these,
20 not only the CSMAC working groups and CSMAC
21 subcommittees but the industry participation,
22 by people trying to get things moved forward,

1 both from the government and industry sides.

2 And I think it's really important
3 that we try to push forward to get these
4 groups moving so that there is the possibility
5 of getting frameworks for sharing set up so
6 that we can expand the use of the government
7 spectrum and try to figure out metrics and
8 frameworks that people can have understanding
9 of what is available and what can be done and
10 how we have frameworks for sharing and
11 frameworks for resolution of problems, if
12 there are any and we sort of go into this with
13 our eyes open but make sure that everybody
14 goes in with an idea that we can make this
15 work and that there is the possibility of
16 vastly increasing the use of spectrum to
17 provide much, much higher capacity usage for
18 commercial and government at the same time,
19 that this can be a win-win situation.

20 So that is -- basically I just
21 want to encourage us to move forward
22 expeditiously but also to try to have this

1 goal in mind of getting things done in a
2 cooperative manner. And I think that the
3 working groups so far have been making an
4 extreme effort to do that and putting forth a
5 lot of effort and a lot of time. And it's
6 really appreciated.

7 So now I think I want to turn it
8 over to the status of the CSMAC
9 recommendations. And I assume this is you,
10 Karl, on the NTIA Evaluation of Sharing,
11 Unlicensed and Spectrum Management
12 Improvement.

13 MR. NEBBIA: Thank you very much,
14 Greg.

15 STATUS OF CSMAC RECOMMENDATIONS

16 - NTIA - EVALUATION OF SHARING, UNLICENSED

17 AND SPECTRUM MANAGEMENT IMPROVEMENT

18 MR. NEBBIA: All of you should
19 have the feedback that we provided on the
20 three recommendations that we received at the
21 last meeting. These dealt with the evaluation
22 of sharing the unlicensed and I think second

1 iteration of the spectrum management
2 improvements item. And that was where the
3 subcommittee responded to our responses.

4 So you should have each of those
5 three documents. And I would like to take a
6 walk through them in a way of kind of hitting
7 on some highlights and maybe having a little
8 bit more discussion on some sense of
9 expectation.

10 With respect to the sharing
11 recommendation, I believe along each of the
12 recommendations that you have provided, we are
13 in agreement with the concept. Certainly
14 doing sharing studies, coming up with sharing
15 arrangements is not a one-size-fits-all
16 process. And, in fact, what we have found is
17 that having information, specific information,
18 about the operation.

19 Some of it, it might be about,
20 actually, the op plan for the activity. It
21 may be more specific information about the
22 characteristics of the systems or it may

1 actually be some more information about how a
2 specific system operates within its own bounds
3 in a way that may reflect something different
4 than the traditional max-power, max-gain type
5 of information that you would get.

6 In fact, if you will recall, a
7 number of months ago, we had asked for input
8 on what characteristics we should actually be
9 using in terms of doing our analysis in the
10 1755 to 1850 band. And the Committee provided
11 us a recommendation with a list of those
12 characteristics.

13 Recently it has come to light that
14 those characteristics are not actually what we
15 have got to use in the detailed discussions in
16 terms of coming up with sharing arrangements,
17 that to use them, in fact, creates large areas
18 that we have to create a buffer between us so
19 that, in fact, certainly starting with Working
20 Group 1 -- and we'll get there in greater
21 detail -- there's been a lot more work going
22 on to reflect what the network will actually

1 look like in terms of its operation.

2 So as we study sharing in general,
3 I think that becomes the critical concept that
4 when you are trying to maximize the
5 opportunity for sharing, you have to get down
6 to that kind of detail to resolve those
7 issues. If you don't, then the sharing
8 arrangement you create is obviously less than
9 optimum, more worst-case, and so on.

10 So I think that is our general
11 sense in looking at each of those, of the
12 recommendations that you provided. I think
13 the one question that we continue to have,
14 certainly dealing with the first
15 recommendation, is what is going to be the
16 difference between the general requirements
17 and these other more specific requirements?
18 And essentially how much work should be put
19 into trying to create basically a dictionary
20 or a guide book of "Here are all the
21 requirements band by band for all these
22 different systems." Is that a valuable tool,

1 as opposed to saying, "Where are
2 opportunities?" And then let's get down to
3 the specifics that we really, really need.

4 So any thoughts on that? There
5 seemed to be an orientation here about
6 producing a wide range of "Here are the
7 services" in various bands and coming up with
8 requirements for each of them, as opposed to
9 focusing on "Okay. What are we really looking
10 at? What sharing situation are we looking
11 at?" and trying to get into it more deeply.

12 So any thoughts?

13 CO-CHAIR ROSSTON: Grab a
14 microphone. David Donovan?

15 MEMBER DONOVAN: It's a tough
16 call, to be honest with you. I mean, if we
17 want to make progress, then getting right into
18 the specifics and right into the details right
19 away I think makes a whole lot of sense.

20 On the other hand, having sort of
21 a guide or best practices or a guide as to how
22 you want to approach these things I think is

1 important for an analytical framework, for
2 going beyond the specifics.

3 So it's really not an answer, but
4 it's sort of -- I guess the law school analogy
5 is I like having the Gilbert's notes on one
6 side, which provide the framework, and then
7 delve into the individual cases. I don't know
8 whether we have the resources to do both,
9 though. I assume that is the issue.

10 MR. NEBBIA: I think that
11 certainly becomes a significant part of the
12 issue, is whether we have all the people and
13 staff to do that. But another part I think is
14 that it is very easy if you're just beginning
15 with the general numbers. It's very easy to
16 get put off from a solution because the
17 general type numbers tend to look so negative
18 because you are bringing together all of these
19 worst-case inputs that -- people tend to throw
20 up their hands.

21 So I think it is an issue of
22 resource management and priorities which bands

1 and services and so on do we look at in these
2 terms, but ultimately I think it's also some
3 sense of agreement. If we're really going to
4 make this work, you've got to get down to
5 those details. Otherwise you continue to
6 create these big separations.

7 MEMBER DONOVAN: So do you think
8 getting down into the details will allow us to
9 proceed in a more expeditious fashion getting
10 spectrum out there?

11 MR. NEBBIA: I think certainly
12 focusing on that, focusing on the specific
13 opportunities we have and pouring our
14 resources into that, is probably a better use
15 of certainly our efforts and staff time than
16 trying to create the larger guide book or crib
17 sheet or whatever for all the bands and all
18 the services. I just think they are too
19 numerous to try to create that construct.

20 Even with the work we are doing in
21 one band, we have had to create five different
22 working groups. And I think I've heard

1 recently somebody mention about the 1,000
2 megahertz sharing possibility, that that might
3 result in many, many more working groups. So
4 I think that we have got to focus certainly
5 our staff efforts and so on on the places that
6 we think are offering real options.

7 MEMBER DONOVAN: Thank you.

8 MR. NEBBIA: Any other ones?

9 CO-CHAIR ROSSTON: Yes. Can you
10 get a microphone?

11 MEMBER OBUCHOWSKI: Well, is this
12 on?

13 CO-CHAIR ROSSTON: Yes.

14 MEMBER OBUCHOWSKI: Okay. Well, I
15 did want to credit the work that NTIA and
16 various working groups are doing. And to the
17 extent that I have mostly eavesdropped on the
18 process, there has been a lot of good faith
19 and certainly an enormous amount of resources
20 thrown at this.

21 I also believe we can't help but
22 look at sharing. I mean, I've been on this

1 Working Group for -- or at least this Advisory
2 Committee for several years now. And one
3 thing that I believe has become very much a
4 reality that everyone around the table has
5 been educated about is the federal users are
6 a very complex lot.

7 We're not talking about people who
8 are inefficient in their use of trunking
9 technology. We're talking about some of the
10 most sophisticated systems in the world.

11 And so therein comes the benefit
12 of this in-depth discussion, but therein I
13 think also comes the need to have some perhaps
14 high-level principles as well because when you
15 talk about particularly the more sophisticated
16 forms of sharing, you know, all the way up to
17 the PCAST variations, again, the topic of
18 enforcement and trust is absolutely huge. If
19 everything is going to be kind of case by
20 case, looking at the parameters on both sides,
21 and eventually arriving at a technology
22 handshake, there has to be a magnificent

1 amount of trust in both directions.

2 And, frankly, a concern I have,
3 people say, "Well, why is it that the feds are
4 sharing with the feds but it is more difficult
5 with the commercial?" Well, that is obvious.

6 You know, over here at NTIA, Larry
7 wields a big stick. He can --

8 (Laughter.)

9 MEMBER OBUCHOWSKI: Larry is able,
10 at least in theory, to tell one federal user
11 to back off and the other federal user to
12 advance and sort of manage the sandbox. But
13 when you're talking about commercial players
14 of enormous sophistication with the ability to
15 go to Congress or the courts, sharing with
16 feds, it's really difficult to foresee how the
17 enforcement scenarios might move forward.

18 And I think that is beyond, to
19 some extent, the work of these working groups.
20 But that is the issue that really is profound.

21 MR. NEBBIA: Okay. One other
22 comment I want to make about the first

1 recommendation here, one of the items that is
2 included under the general requirements
3 statement I believe is the issue of occupancy.
4 And I'm interested in what you all think is
5 reasonable to expect or it can be expected in
6 terms of occupancy information.

7 And I appreciate it if you could
8 put it in the context of whatever knowledge
9 you have of the occupancy information that is
10 provided by the private sector in their
11 activities.

12 So I am trying to -- I understand
13 we often get into the discussion of providing
14 government occupancy information, but I think
15 we have at least got to look at it in terms of
16 what is the real world here in those terms.

17 So I would appreciate any thoughts
18 you have on what is the real expectation in
19 terms of access to government occupancy
20 information?

21 This is part of recommendation
22 number 1 on the Sharing Committee. It is

1 under the general requirements. So it was not
2 a specific requirement as far as I could see,
3 but it was under the general requirements.

4 Mark?

5 MEMBER McHENRY: Working Group 1,
6 they told us there are seven satellites, there
7 are six locations. I mean, you can estimate
8 the occupancy. That's all that was intended.
9 They would 'fess up and say, "We have this
10 many transmitters these places these times."

11 MR. NEBBIA: Well, "these times,"
12 that becomes --

13 MEMBER McHENRY: If people don't
14 'fess up and explain what their occupancy is,
15 how would the entrant know what he's getting?
16 So the incumbent needs to say what is
17 occupancy and how it is going to change, what
18 it is today. Is it going to be triple
19 tomorrow? We have got primary rights. If
20 he's planning on tripling it tomorrow, the
21 entrant needs to know that p

22 MR. NEBBIA: Right. But that is

1 part -- once again, I am trying to make the
2 distinction here. This is listed as one of
3 the general requirements. I am assuming,
4 therefore, that you are saying this is the
5 kind of item that should be up front in a
6 database, not part of the detailed discussions
7 but should be generally available. And now
8 what you are saying makes it sound like that's
9 not what you're asking for.

10 MEMBER McHENRY: The requirement
11 is that you have to disclose it sometime, just
12 that this would be a list of things that would
13 have to be disclosed eventually, a checklist.
14 If someone came to you and said, "I had a
15 deal," when you go to the checklist, "Well,
16 did you answer this question, this question?"
17 that is what was intended here. To provide a
18 checklist for them to understand their work,
19 so they wouldn't overlook something.

20 MR. NEBBIA: Okay. Now, once
21 again, I am just trying to understand. Where
22 this says, "NTIA should develop," --

1 MEMBER McHENRY: Yes.

2 MR. NEBBIA: -- these
3 requirements? So you are saying when you are
4 dealing with two specific groups working
5 toward some sharing information, that this
6 information is, in fact, necessary?

7 MEMBER McHENRY: If someone came
8 to you and said, "We have a deal to share it"
9 and they didn't disclose the occupancy, I
10 wouldn't value the deal. I would say they are
11 going to have a problem with it.

12 MR. NEBBIA: Sure.

13 CO-CHAIR ROSSTON: Is this
14 something where you think that what Karl asked
15 was in the private sector, presumably if you
16 were to do a deal with a commercial carrier,
17 you would want to know what they would
18 disclose, what they are going to use in the
19 future, and you would be that --

20 MEMBER McHENRY: Their current and
21 future plans.

22 CO-CHAIR ROSSTON: You should use

1 a microphone by the way, sir. Yes, their
2 current and future plans so that you know what
3 you could share with us. And you think that
4 that is also --

5 MEMBER MCHENRY: That's not
6 disclosed and decided. And then they're going
7 to go blow up later. That is what the purpose
8 of this was.

9 MR. NEBBIA: Okay. Just so I'm
10 clear, you are not expecting this to reside in
11 our databases in a way that is presentable.

12 MEMBER MCHENRY: No. If someone
13 came to you and "I have a done deal," both
14 sides would have to explain the occupancy
15 assumptions they made, where they go them, how
16 much can they grow so it's a checklist for you
17 to validate, "Oh, this deal is credible."
18 It's kind of like the CliffsNotes or whatever
19 you said.

20 MR. NEBBIA: Right.

21 MEMBER MCHENRY: It's kind of a
22 guideline. Just before the analysis, you gave

1 them a punchlist, "You'd better decide all of
2 these things."

3 MR. NEBBIA: Okay. Any other
4 thoughts on that?

5 MEMBER KAHN: You know, I think
6 this goes back to Janice's comment about
7 trust. You kind of have to figure out what
8 you think your basic underlying assumption of
9 the two sides is. And this occupancy is one
10 of those things that you can easily inflame in
11 terms of a projection and in order to
12 discourage, you know, sharing opportunities.

13 So I do think that, you know,
14 having the NTIA is kind of an arbiter to some
15 degree saying we need that number on both
16 sides probably, I think. Otherwise that
17 becomes a way that discourage and make sure
18 it's possible.

19 MEMBER MCHENRY: But if it isn't
20 considered, it's a disaster.

21 MEMBER COOPER: Yes. They've got
22 to be accurate or at least best good faith

1 estimates.

2 MR. NEBBIA: So I think part of
3 the challenge here is that this is not
4 information that is currently required. And
5 I'm not sure, certainly on the private sector
6 side, that it is currently required in that
7 the actual time of operation as a percentage
8 of the whole and so on. That is not
9 traditionally required in licensing or in
10 assigning frequencies and so on.

11 So that information is not
12 generally resident. Obtaining that
13 information in all federal systems obviously
14 would be challenging to --

15 MEMBER McHENRY: But how can you
16 share unless you know what you are going to
17 get?

18 MR. NEBBIA: I think the issue is
19 once you get together to work on that, you can
20 certainly get into those issues, but, once
21 again, I am looking in the context of
22 providing general requirements that NTIA is

1 supposed to be building this information.

2 And I think in general terms,
3 providing moment-by-moment occupancy or those
4 things is, at least at this point, not a
5 possibility. You will get, as Jan was saying,
6 those very general, broadly stated things.

7 We know that certain systems,
8 like, for instance, an FAA radar at a
9 particular base, we know that that is
10 operating all the time. On the other hand,
11 most of those radars actually have a backup
12 frequency. And we don't know how often they
13 come up on that frequency. That's not part of
14 the licensing process.

15 So that is part of what I am
16 trying to say. As we engage in these direct
17 discussions, you can get into bringing that
18 information out. But, as for having that as
19 part of a frequency record at this point, we
20 don't have that. And I'm not sure that that
21 is even consistent with what the private
22 sector provides either.

1 CO-CHAIR ROSSTON: Jennifer?

2 MEMBER WARREN: That seems to
3 apply to the data. This is just the notional
4 -- the list of things that have to be
5 generally identified and discussed at the
6 case-by-case level, as opposed to having a
7 resident database that's maintained on a daily
8 basis with this kind of information.

9 I didn't hear that as part of the
10 discussion that we had in the CSMAC but,
11 rather, this is what is necessary when you go
12 to the deeper level, the next level.

13 So I think Mark used the term
14 "checklist" but not a checklist that you guys
15 have the information at the ready for every
16 single system but on a case-by-case basis, we
17 don't need it. Is that not, Mark?

18 MEMBER MCHENRY: Certainly.

19 MEMBER WARREN: Okay.

20 CO-CHAIR ROSSTON: Bryan?

21 MEMBER TRAMONT: Yes. I think if
22 it were possible for that to be available,

1 obviously that would make sharing easier,
2 right? Private parties would be able to look
3 at a database. They would be able to say what
4 the frequency of use is. They would be able
5 to develop investors and proposals to come to
6 you with the sharing thing that would work.
7 So obviously that would be the home run.

8 But there were huge transaction
9 costs associated with that. And, to your
10 point, it is not clear that you have been --
11 some commercial systems have that kind of
12 transparency. Others don't.

13 So I think the trick is figuring
14 out to what degree that transparency can be
15 provided, perhaps for bands that are targeted
16 for potential sharing where other systems
17 wouldn't. But that some sort of open database
18 that would allow for private sector entities
19 to look at the spectrum environment, develop
20 business plans, and come to you with ideas
21 would be the home run.

22 CO-CHAIR ROSSTON: Your idea of

1 when you are doing a deal with a commercial
2 provider -- right now we are trying to get the
3 government to have a database of who is on
4 what channel. Then you know who to negotiate
5 with.

6 Right now if you want to do a deal
7 with a commercial provider, they don't make
8 publicly available what their expansion plans
9 are. You go and you do a deal with them. You
10 negotiate with them and figure out what they
11 are going to be. I think that seems like not
12 an unreasonable thing that we would want to go
13 forward with.

14 Are there people on the phone? I
15 just want to make sure that people on the
16 phone who have a question have a chance to
17 comment as well. Did you want --

18 MEMBER MCHENRY: Well, it can be
19 very crude. Is it a tenth of a percent, one
20 percent, or ten percent? I mean, it could be.
21 That is all the resolution that's needed.
22 High, medium, and low, maybe a geographic

1 factor is all that's needed.

2 MR. NEBBIA: Okay. I wanted to
3 just mention one other item under
4 recommendation 2, the aspect of a management
5 and control feature. I think this is one that
6 we see that would be really useful in helping
7 to ensure that sharing arrangements actually
8 work, provide potentially the possibility of
9 being able to tell somebody they can't operate
10 on the channel if they're not abiding by the
11 thing. It also gives the possibility of
12 updating the sharing arrangement as things may
13 change.

14 But obviously one of the things
15 that this requires is essentially that all of
16 the radio devices that are participating in
17 the arrangement have to be connected to the
18 network and to getting input on their
19 operation.

20 I think certainly many, many of
21 the radio systems that the government
22 operates, probably many that the commercial

1 world operates are not network-centric at this
2 point. And, therefore, they don't have that
3 mechanism, that capability. So it's something
4 that we need to look at in the future, but I
5 think we do need to recognize that most of the
6 radios that people are using, once again
7 outside network-type devices, are probably not
8 connected into the internet, not getting those
9 calls home, and so on. I just think we need
10 to keep that in mind.

11 MEMBER McHENRY: It says,
12 "Interim."

13 MR. NEBBIA: Yes.

14 CO-CHAIR ROSSTON: I think this is
15 actually sort of a good -- you know, sometimes
16 the big picture of what we are going to be
17 discussing when we discuss the working groups'
18 specific recommendations and thoughts. So
19 keeping these overall parameters in mind and
20 guidelines in mind is going to be good to the
21 working groups as well.

22 MR. NEBBIA: Okay. I would like

1 to talk about the unlicensed recommendation.
2 I should say in this case, I think we are in
3 agreement to pursue these ideas. In fact, we
4 will be meeting. OSM and the FCC's Office of
5 Engineering and Technology meet regularly.
6 And we will be raising these concepts with
7 them.

8 I should indicate that out of the
9 many recommendations that the CSMAC has put on
10 the table before, this is probably the only
11 one where I've gotten spontaneous calls from
12 the outside saying things like "What do you
13 mean you're calling us dumb devices?"

14 (Laughter.)

15 MR. NEBBIA: So there is an
16 industry out there that I'm not sure that
17 there was full understanding and evaluation of
18 who they are and what they provide. And I
19 think, certainly in the context of our
20 expertise here, I think there is an
21 orientation around network-linked devices,
22 internet information passage, and not much of

1 an orientation around car key fobs and all the
2 other many, many devices.

3 So we are going to be hearing a
4 little bit more from those industry groups on
5 these recommendations. And we may have to
6 change the word "dumb" before we're over.

7 MEMBER KAHN: Perhaps we should
8 have called them unconnected devices.

9 MR. NEBBIA: There we go.

10 MEMBER KAHN: But the reality, I
11 mean, is that those guys typically are not
12 grabbing a lot of spectrum for what they're
13 doing. They're not the demand function for
14 new swaths of spectrum.

15 The problem case would be if you
16 found a desired application or big chunk of
17 unlicensed spectrum that did not want to be
18 connected. And that application is a little
19 hard to come up with right now.

20 MR. NEBBIA: Yes. I think one of
21 the challenges, though, is not often grasping
22 that distinction. We hear lots of people

1 referring to unlicensed spectrum or spectrum
2 allocated for unlicensed. And they are
3 surprised when we tell them that most
4 unlicensed devices actually operate in
5 spectrum for which there is no specific
6 mention or authorization for unlicensed.

7 And many of them actually go on in
8 bands that the federal government is using now
9 and already constitute a form of sharing. So
10 I think, certainly as we go on in our thinking
11 and in the general dialogue outside of the
12 room here, I think we need to keep that in
13 mind.

14 And certainly as different groups
15 look at this issue, they need to at least
16 recognize the presence of all those many
17 devices. We're going to be evidently sent a
18 list of all of them. And I understand it is
19 quite substantial. So we will be looking at
20 that.

21 Okay. Any other thoughts on your
22 side on the unlicensed piece?

1 (No response.)

2 MR. NEBBIA: I know we had quite a
3 bit of dialogue at the last meeting resolving
4 the final steps on the recommendation.

5 The last part we had here was the
6 update on the improvements. And I think, once
7 again, our interest in focusing our activities
8 if we are going to be able to pursue actually
9 cleaning up databases is we need to walk
10 through this idea of, well, what are we going
11 to focus on? What are we going to use our
12 time on?

13 And I think we are actually
14 finding in the discussions that we are having
15 in the working groups and the preparations for
16 these working groups that the process of
17 looking closely at the data, identifying any
18 systems that may have actually passed their
19 lifetime and so on is going on in that
20 process. So I think that's a healthy thing.

21 And so I think that is where our
22 focus is going to be, on those bands that

1 we're actively looking at right now and we'll
2 be working with. Of course, DoD is the
3 primary user in those bands. We will be
4 working that side of things. So I think that
5 will be an important part of what we are
6 doing.

7 We did have a little bit of
8 looking at recommendation 2. And this is the
9 one that listed a number of approaches that
10 the Commission has taken in terms of putting
11 requirements on users to help keep the
12 database clean. And I'm sure everybody would
13 totally agree that the FCC's database is pure
14 and there are no mistakes there.

15 But, once again, in the concept
16 of, for instance, specific license terms that
17 we have not used, as far as I know, in many,
18 many of the cases in the Commission's
19 database, there is a license term, but there
20 is a presumption that they can renew the
21 license. So it becomes a little bit of an
22 administrative activity in doing that.

1 Also, if we try to identify, well,
2 what is the license term that is appropriate
3 for all of the various types of federal
4 systems, we are probably going to find a lot
5 of them that were probably uneasy with ten
6 years. We may want to say 15 years. If we
7 start getting into satellite systems, there
8 are a lot of them that have far outlived
9 anything that we would have predicted.

10 So I think that becomes a
11 challenge as the agencies obviously in
12 creating those long-term systems have to have
13 a sense that they got the time to work through
14 that.

15 So we see in each of these I
16 think, you know, some potential issues with
17 the government agencies. We do have a
18 five-year review process. So many of the
19 things that would normally come up during a
20 build out period, we're going to find out then
21 whether they are operating or they are not
22 operating. At least they are supposed to

1 report back on that.

2 So I think most of these things in
3 some way apply on the government side.
4 Obviously they don't give us construction
5 notification. But I have to ask whether in
6 the government context, these are necessary
7 parts or not or they just become another
8 burden along the way.

9 So I think we are willing to
10 pursue these ideas. I am just not sure that
11 the private sector construct follows exactly
12 what we need to do but certainly worth looking
13 at.

14 CO-CHAIR ROSSTON: Jennifer?

15 MEMBER WARREN: Thank you. I was
16 going to bring this up in the context of
17 Working Group 5 before, but it kind of fits
18 here, too.

19 In the context of the GMF, I think
20 one of the things that's come out there as
21 well, there have been I think in advance,
22 perhaps, of some of the agencies' five-year

1 review period, you know, there has been
2 review. And they have been winnowing out some
3 of their assignments. But what has also come
4 out is that there are some agencies, civil
5 agencies, whose assignments aren't in there.

6 And so I think, you know, while
7 the recommendation 4 from this group, the
8 Spectrum Management Improvements group,
9 focused on kind of winnowing out, I think we
10 also may want to consider something, how we
11 make sure whether it's Coast Guard, DoJ,
12 whomever, that everything is in there, too,
13 because that is equally important, obviously,
14 for understanding sharing impact, sharing
15 analysis, and just overall understanding of
16 the band.

17 So that came out in Working Group
18 5. So I just wanted to share that.

19 MR. NEBBIA: Okay.

20 MEMBER DOMBROWSKY: And I just
21 want to echo that because it's justified
22 across the group. I mean, we are finding

1 different services and systems much later
2 because it's not in the master frequency file.
3 So if there is a lot of hunting and searching
4 and polling of the actual agencies to find out
5 things. So I would echo that comment as well.

6 MR. NEBBIA: And I know,
7 certainly, for instance, on the weather
8 satellite side, the reality is we have never
9 required authorizations or licensing on the
10 Commission side for those receive only sites.
11 So it was an exercise in and of itself for
12 people to try to find out where every one of
13 their sites are because it didn't require
14 going through that process in order to get an
15 okay to use it.

16 So I think we are going to see
17 some pluses and minuses through that process,
18 but I think the work that we are doing is
19 going to help us get there.

20 Okay. Any other thoughts on the
21 feedback on the spectrum management aspects?
22 Of course, on the fee side, that is once again

1 something that still is something that
2 Congress would have to deal with. We have got
3 a limited authorization at this point, that we
4 collect fees based on our operational cost
5 here in spectrum management.

6 So any further thoughts before we
7 move on to the next document?

8 (No response.)

9 - CSMAC - INTERFERENCE AND DYNAMIC ACCESS

10 MR. NEBBIA: First I want to thank
11 David for having taken the time to go back to
12 the archives when we came to the last meeting
13 and said we had finally gotten back to looking
14 at what was really an extensive document
15 dealing with interference and dynamic spectrum
16 access. We provided a lot of input and then
17 asked for your feedback. And David, who is I
18 guess responsible for that group -- I have a
19 hard time remembering back that far.

20 MEMBER DONOVAN: As do I.

21 MR. NEBBIA: But he has now put
22 together thoughts in response to our comments.

1 And if you would like to introduce it today,
2 David?

3 MEMBER DONOVAN: Sure. I want to
4 thank you, Karl. I guess I should have
5 attended the last meeting as I was watching it
6 over the internet. Getting this assignment,
7 I was busily trying to hit the No button.

8 (Laughter.)

9 MEMBER DONOVAN: I want to
10 emphasize this is a draft and all that
11 entails. And my goal and hope is that we can
12 receive edits from the CSMAC group and make
13 changes accordingly.

14 There were a number of questions
15 relating to the original draft that was done
16 in November of 2010. And I might add, in
17 addition, a lot of the policy debate has moved
18 considerably since 2010 since this draft,
19 since the original recommendations were put
20 forth.

21 I can go through these in
22 excruciating detail, but I think it is -- if

1 I could just hit four major points? And,
2 again, this has been put out there simply to
3 solicit additional edits.

4 There are a couple of things. One
5 is that the debate has moved on. And so you
6 will see at least reflected in some of these
7 answers issues that have been raised and
8 philosophies that have been raised in the
9 PCAST report in terms of trying to facilitate
10 and promote sharing.

11 There are issues in here about
12 money. And I think Karl has already discussed
13 the issue. The original recommendations asked
14 for a lot of research to be devoted on dynamic
15 spectrum access. And there are issues
16 regarding money. And I think we make similar
17 recommendations in which we can see if you can
18 receive funds out of the Spectrum Relocation
19 Fund; in addition, frankly, asking or making
20 sure that requests for that research are in
21 future budgets.

22 I think one of the great -- and we

1 have discussed it a little bit here as one of
2 the tensions that I think we have to deal with
3 is one of the key tools in spectrum sharing
4 has, of course, been the database management.
5 You have seen that in TV white spaces. We
6 have discussed this extensively. The PCAST
7 report mentioned it extensively as well.

8 At the same time, there was a
9 federal interest, Karl. And we have talked
10 about this in terms of how much information
11 you make necessary or make public or make
12 transparent.

13 This is really a critical issue.
14 I think Mark is right. I mean, you need to
15 know. You need to know information in order
16 to get investors, in order to have private
17 sector sharing in the first place.

18 This document, while recognizing
19 that there are national security interests and
20 there are other federal interests in terms of
21 releasing database information, it seems, at
22 the very least, for those frequencies for

1 which a policy has been made that said, "Yes,
2 we want to share in that," that there needs to
3 be a way to go about and create a workable
4 database for which the private sector can
5 indeed share.

6 And depending on the sharing
7 scenarios, which will be considerable, maybe
8 a database needs to be in real time. Maybe it
9 doesn't need to be in real time. If you are
10 just sharing with fixed services that are
11 operating on a 24/7 basis, you certainly may
12 not need that.

13 But there is a recommendation in
14 here to say, "Look, we really have to try to
15 see if we can move forward, at least with that
16 particular technology," recognizing, of
17 course, that there are federal concerns here.

18 In addition, there are other
19 technologies that may work very well,
20 spectrum-sensing or other dynamic spectrum
21 access, which may not require the release of
22 specific database information. And there are

1 technological ways of achieving that. So that
2 discussion is in here.

3 You had asked, Karl, I think some
4 very important questions about enforcement.
5 And, in particular, the tool, I think, Janice,
6 we had recommended the temporary restrain of
7 interference and one of the elements one would
8 consider.

9 At the time, we viewed this as
10 sort of the equivalent of a temporary
11 restraining order, almost like a court issuing
12 a preliminary injunction to try to have a
13 temporary resolution of the issue while the
14 underlying interference issues are resolved.
15 We try to flesh that out a little bit more
16 here.

17 Again, this is a draft. These are
18 just simply examples of the elements, for
19 example, that one may want to consider and try
20 to move forward if there were a massive
21 interference issue and you needed that type of
22 mechanism to solve the problem.

1 I think the other point, major
2 point, that is in here -- again, this is a
3 draft, so for discussion -- is creating a
4 systematic method of reporting interference
5 and how that should be done.

6 I understand, obviously, there are
7 reports and interference reports that are
8 filed with NTIA. On the FCC side, we have all
9 dealt with them. You hire a lawyer. You go
10 file your interference complaint. And you go
11 to the various respective bureaus to try to
12 resolve it.

13 I think if we are going to move
14 into a more dynamic sharing environment in
15 which the potential for interference
16 increases, there is a recommendation in here
17 that maybe we ought to think about opening up
18 an interference-based portal.

19 I know, just on the broadcast
20 side, a lot of my engineers that may be
21 encountering interference in a variety of
22 scenarios go back to the office and say, "Uh."

1 Then they call me, and they grumble. And that
2 is sort of where it goes.

3 If there were a portal by which
4 either commercial entities that are being
5 interfered with with federal systems or
6 federal engineers that realize they are being
7 interfered with with commercial systems are
8 being interfered where we begin to track this
9 all, it may help and indeed may help develop
10 policy. Perhaps a specific geographic area
11 was a problem. Maybe it's bad equipment that
12 has entered the marketplace. So it's there.

13 But, again, I want to really
14 emphasize that this really is a draft. It's
15 certainly not intended for final resolution.
16 And I look forward to working with anyone who
17 deigns to send an edit to Albany.

18 (Laughter.)

19 CO-CHAIR ROSSTON: Carl Povelites?

20 MEMBER POVELITES: Carl Povelites.

21 Understanding this is a draft, I guess we'll
22 have to walk in and provide comments.

1 MEMBER DONOVAN: Sure.

2 MEMBER POVELITES: One concern or
3 question I had was the amount of reliance that
4 there seemed to be through a lot of the
5 responses to the PCAST report, which, to my
6 knowledge, hasn't been adopted by the
7 administration. Nor has it really been vetted
8 by this group. I'm just curious as to when we
9 go through this, what would be the best way to
10 go about dealing with that?

11 MEMBER DONOVAN: That's a good
12 question. I mean, I think the PCAST report
13 certainly, without getting into the specifics
14 of it, lays out I think a policy which this
15 group really has also been pushing. And that
16 is trying to figure out and define ways of
17 dynamically sharing spectrum.

18 So I didn't mean to intend to for
19 this group to endorse all of the elements of
20 the PCAST report, but what you will see in
21 here, for example, on the section of database,
22 the PCAST report I think is accurate and says,

1 "Look, if we are going to have sharing as a,
2 database sharing as a, means of sharing, then
3 you need a database. And it is in that
4 context that you will see references to the
5 PCAST report as well in here."

6 If there is language in here that
7 overextends, we can certainly talk about that.

8 CO-CHAIR ROSSTON: Other comments?
9 My thought, just in terms of procedure -- so
10 are there other substantive comments before I
11 talk about procedure a little bit?

12 (No response.)

13 CO-CHAIR ROSSTON: And I have just
14 been whispering a little bit to Karl and
15 Larry, and I am winging it on my own here. So
16 they bear no responsibility for this.

17 My thought is that -- this is a
18 huge amount of work, and we really appreciate
19 it, David -- for people to take a look at it
20 over the course of the next month to six weeks
21 and get comments back to David and we compile
22 the comments and we actually have that

1 circulated in advance of the January meeting.

2 We have time at the January
3 meeting to discuss it more and then if we
4 decide we want to come to a vote on it, we
5 actually have the vote at the February meeting
6 but have people have a chance to circulate
7 points for discussion well in the next month
8 or so but maybe by December 1st, actually, get
9 everything back to David. And then he can
10 compile sort of a list of what people's
11 comments were on the different points. But
12 there are a lot of recommendations here and
13 obviously a lot of work that went into this.

14 But now if Karl wants to talk
15 about substance again?

16 MEMBER DONOVAN: That was my
17 intent, actually.

18 MEMBER POVELITES: I just want to
19 make sure we get a Word document or something
20 so that we can go in. I think this is PDF.

21 CO-CHAIR ROSSTON: Is that --

22 MEMBER DONOVAN: I am more than

1 happy to send out a Word document.

2 CO-CHAIR ROSSTON: Yes? If you
3 could send that to Bruce? Then Bruce can make
4 sure it gets sent out to the Committee. That
5 would be great. Okay. Thank you very much,
6 David. That is a great help to move forward.

7 MR. NEBBIA: Just to note one
8 item, there are a few places where we in our
9 response discuss the question of unwanted
10 emission levels, the Commission has
11 traditionally used this $43 \text{ plus ten log } P$
12 value. And we have over and over again found
13 that the specific systems that we are working
14 with are much better than that.

15 And, yet, the challenge becomes as
16 that becomes the regulatory norm, that is what
17 everybody insists on using in their analysis,
18 which, of course, leads you not to a very good
19 sharing situation.

20 So I would particularly appreciate
21 feedback on that idea as we begin to kind of
22 press that forward.

1 MEMBER DONOVAN: I fully agree
2 with you. I think that the ten log P as a
3 uniform autoband emission standard is
4 inappropriate in this context. And we do
5 discuss that in here.

6 MR. NEBBIA: Okay.

7 CO-CHAIR ROSSTON: Other comments?

8 (No response.)

9 CO-CHAIR ROSSTON: Okay. So why
10 don't we move on to the CSMAC subcommittees.
11 I think, Janice, you are at least first on the
12 agenda.

13 STATUS OF THE CSMAC SUBCOMMITTEES

14 - UNLICENSED SPECTRUM SUBCOMMITTEE'S REPORT

15 MEMBER OBUCHOWSKI: Okay. Well, I
16 can keep it very short because the substance
17 of our report, in fact, has been covered by
18 Karl's presentation of some of the conclusions
19 and NTIA's response. As I mentioned, Michael
20 Calabrese is winging his way to Spain and
21 gives me his proxy.

22 We have basically concluded our

1 work for this session. The report as
2 presented in July is now final. And, as I
3 said, I think Karl has given the thrust of its
4 recommendations. One is increased reliance on
5 accessing the network. And the second would
6 be a closer look at enforcement going forward.

7 Basically we're open for your
8 thoughts about work for the Unlicensed
9 Committee as we meet in January assuming
10 there's a request for a new agenda. The FCC
11 just opened the possibility of an unlicensed
12 band in the broadcasting set of bands that
13 might be opened through the incentive auction
14 process.

15 And while that is not within
16 NTIA's jurisdiction, that does open a whole
17 new frontier because, unlike the category of
18 unlicensed services that are, in fact, people
19 without a country on some level layered on top
20 of licensed services and they are at will,
21 this would be a different category in a very
22 prime band. And so I would highlight that

1 because in some sense, the thinking associated
2 with that will be cutting-edge as we look at
3 a license going forward.

4 Thank you for that.

5 Any other comments? We have some
6 other folks here. Dr. Stancil provided a
7 database suggestion going forward, which we
8 have put into the report as something to
9 consider.

10 And Dr. Kahn was leading the way
11 on the whole idea of increased reliance on the
12 internet and the ability to connect as a way
13 to avoid interference.

14 So thank you for all of the
15 Committee members' thoughtful input.

16 CO-CHAIR ROSSTON: Thanks. Are
17 there other comments or questions?

18 (No response.)

19 CO-CHAIR ROSSTON: Okay. The
20 Spectrum Management Improvements Subcommittee,
21 Bryan?

22 MEMBER TRAMONT: I don't know if

1 Mark has now joined us by phone or not.

2 CO-CHAIR ROSSTON: Mark Gibson?

3 MEMBER GIBSON: Yes. I am here.

4 MEMBER TRAMONT: Very good. Did
5 you want to do this or do you want me to do
6 this? There isn't much to do. So either way
7 is fine.

8 MEMBER GIBSON: You're on.

9 MEMBER TRAMONT: I'm on? Great.
10 Okay. Excellent.

11 - SPECTRUM MANAGEMENT IMPROVEMENTS

12 SUBCOMMITTEE'S REPORT

13 MEMBER TRAMONT: Well, there isn't
14 much to report. We had a surreply round with
15 NTIA in response to their response to our
16 recommendations. We have essentially
17 suspended work pending the completion of the
18 1755 to 1850 program. So we have nothing new
19 on that front.

20 - SPECTRUM SHARING SUBCOMMITTEE'S REPORT

21 CO-CHAIR ROSSTON: Okay. And I
22 think Larry Alder had a similar report. Your

1 concurrence, Mark?

2 MEMBER MCHENRY: Yes.

3 CO-CHAIR ROSSTON: Yes? Okay. So
4 that's the Spectrum Sharing Subcommittee. So
5 we get that on schedule. I run a good
6 meeting. Wait. Just wait.

7 (Laughter.)

8 CO-CHAIR ROSSTON: Okay. So now
9 we are going to move on to the progress for
10 the CSMAC working groups. And in numerical
11 order, Working Group 1. And we have the CSMAC
12 liaisons to the working groups that are going
13 to be making reports.

14 At least for Working Group 1, this
15 is Mark and Dennis. Do you want to at least
16 start out, start us out? And then also Janice
17 and Doug are members, and other people are
18 able to talk as well.

19 PROGRESS REPORT -

20 CSMAC WORKING GROUPS' LIAISONS

21 - WGI 1695 - 1710 MHZ WEATHER

22 SATELLITE RECEIVE EARTH STATIONS

1 MEMBER ROBERSON: And for those on
2 the phone, this is Dennis Roberson. And I was
3 nominated to serve as the spokesperson for the
4 group.

5 For those of you not in the room,
6 I will apologize because we have continued
7 with our deliberations right up until about
8 9:45 this morning. So those of you in the
9 room have a truly hot-off-the-presses printout
10 of the current status of things. And, Bruce,
11 thank you for printing things out for us.

12 The actual report comes in an
13 unusual manner. First, we'll talk about the
14 context of the Working Group and the efforts
15 that have been conducted and the results at
16 this point. That will be followed by a short
17 presentation from the liaisons, namely Mark
18 and myself, on our perspective, our broader
19 perspective, on the work of the group. So
20 that is the direction that we are moving
21 toward.

22 I would like to acknowledge up

1 front the tremendous work of the co-chairs of
2 Working Group 1, Ivan Navarro and Steve
3 Sharkey, both of whom are in the room. And so
4 they are available for interaction. And if
5 you ask any really tough questions, I
6 obviously have the opportunity to defer to
7 them.

8 Mark and I have been the liaisons
9 there. Ed has been our contact, Ed Drocella
10 has been our contact, here. Robert Weller and
11 Navid Golshahi have been involved very much
12 from the FCC side.

13 This Working Group has grown. It
14 started out as one of the more modest working
15 groups not in the 1755-1850 band that was of
16 keenest interest, it seemed, but we have done
17 quite well in growing our membership.

18 So we are well over 70 people now
19 on the mailing list. And that over time has
20 shifted to be actually dominated by DoD, which
21 is interesting. Industry is certainly
22 represented in significant proportions as well

1 and other interested parties, including
2 various agencies that are not users directly
3 but have considerable interest in the area.

4 From an overview standpoint, the
5 goal of the group in line with all of the
6 working groups is to explore ways that we can
7 lower the repurposing costs and to improve the
8 actual availability and spectrum efficiency
9 that we would obtain, while absolutely
10 ensuring that we don't adversely impact the
11 operations within the band.

12 As a reminder, this is a satellite
13 band. It is a band where there are 18
14 specific sites that are located, receiver
15 sites that are located, in various parts of
16 the United States. And there are 6 satellites
17 that are interacting with those 18 stations.
18 In addition, there is monitoring and actual
19 data collection from satellites from other
20 nations as well. So that is the basic
21 background to remind everyone what we are
22 looking at.

1 We began with the fast track
2 report as a basis for moving forward. And the
3 goal was to take advantage of the
4 knowledgeable industry and the broader
5 government knowledge to refine that input to
6 refine in line with the purpose the use of the
7 spectrum and the continuation of the work as
8 well.

9 Initial areas of focus have been
10 around LTE. And Larry mentioned this. It has
11 turned out to be a more challenging enterprise
12 than was anticipated. There was probably a
13 lot less known about LTE than might have been
14 assumed by the industry side and a lot more
15 detailed requirements for information than
16 perhaps was understood as well. But that was
17 a key focus, has been a key focus, and it has
18 been an expanded focus.

19 I'm actually jumping a little bit
20 ahead of myself, but in providing that
21 baseline information for the other four
22 working groups, as their timeline was shifted

1 a bit beyond the timeline for Working Group 1,
2 it was appropriate for Working Group 1 to take
3 on that role on behalf of all the working
4 groups.

5 The other obvious key is to
6 understand the systems themselves, to
7 understand the simulations model that had been
8 used, and to provide the LTE input to feed
9 into that model, and other information as well
10 to do the assessment of reducing the exclusion
11 zones from the fast track report size and then
12 to develop the recommended rules that would
13 allow that to happen.

14 Qualitatively, the discussions
15 have been rich and positive. A tremendous
16 amount of information has been exchanged,
17 going both directions, a lot greater
18 understanding of the constraints from the
19 industry side that exist in the government,
20 and the characteristics of the system and the
21 operation, going the other way a much enriched
22 understanding of LTE. And we'll talk more

1 about the LTE system in a moment, but that has
2 been very, very helpful.

3 Moving on to the next page, our
4 method of work, again is focusing heavily on
5 the LTE and specifically LTE user equipment
6 characteristics as a focus. And you will see
7 why that is the key focus in a moment as we
8 get to the recommendations. But that has been
9 a key goal.

10 There was an expectation that that
11 goal could be achieved much earlier than it
12 has been. There has been a back and forth.
13 Industry thought they would provide all of the
14 information. And then there were lots of good
15 questions and then in the normal way that
16 information transfer takes place.

17 It has ultimately ended up with
18 the requirement for more time and a great deal
19 of energy applied to this. And the group is
20 to be complimented and the leaders to be
21 complimented and the amount of work that has
22 been undertaken and the foundational nature of

1 that work. So it is quite impactful. The
2 current forecast is that by October 12th; that
3 is to say, a week from Friday, we should have
4 this wrapped up.

5 There is a significant
6 interference analyst that has been taking
7 place and continues to take place. And Ed
8 Drocella has been leading that work.

9 The over-arching comment that goes
10 into this I think for most people not familiar
11 with the LTE system, it's sort of the good
12 news and the bad news. It is an extremely
13 configurable system, much richer, much more
14 complex system than most people had imagined.

15 Being a professor and teaching
16 this sort of thing, I well remember the first
17 time I taught the subject. The question for
18 the class at the end was, do you all think
19 this will really work? And the consensus was
20 no. But it does. It works quite well. And
21 that's the positive feature. But it does
22 create a lot of problems as we're trying to

1 model this because it has so many features, so
2 many knobs and dials to be twisted and turned
3 that it makes it more challenging, both to
4 understand and, hence, the difficulty and the
5 extended time and the communications
6 characteristics.

7 But it also gives great power
8 because it does give a lot more flexibility
9 than many people would have imagined to be
10 able to configure the system and to configure
11 it on a dynamic basis. And I mean dynamic as
12 in milliseconds. The systems can be changed,
13 modified, and out to the end user devices as
14 well.

15 Turning to the recommendations, I
16 will pre-introduce the input from Mark and I.
17 The recommendations were more expansive as
18 they started and as people looked at those
19 recommendations. There was more queasiness
20 about the recommendations. So they have been
21 narrowed to the couple of recommendations that
22 I will list out from the Working Group. And

1 then we will get into some of the richer part
2 of this in the commentary from Mark and I.

3 The first recommendation is not
4 really a recommendation. It is more an
5 assumption. And it is an assumption founded
6 on the back and forth. But the assumption is
7 that the 1695-1710 would be occupied by end
8 user advice.

9 It's a critical assumption. It
10 was not the original assumption. And this
11 would be end user devices not time division
12 duplexed devices, where you had an intermixing
13 of end user devices and transmitters.

14 But this is absolutely critical.
15 This means lower power. It means it is
16 controlled by the infrastructure. And it does
17 bear very strongly on the end operation.

18 Moving to recommendation 2, this
19 is looking at ways to make the current systems
20 operate in an easier-to-partner-with,
21 easier-to-share-with manner. Of the 18 sites
22 that I had mentioned, there are 7 sites that

1 are located within the areas that are of great
2 interest to cellular providers and others
3 because of the population.

4 The nearest one is in Suitland,
5 Maryland. There's another one in Miami, St
6 Louis, Cincinnati, Sacramento, California, in
7 Hawaii, in the Pearl Harbor area, and then in
8 Omaha, Nebraska.

9 So the other 11 are actually in
10 relatively remote sites. But for those sites,
11 it is of interest to try to find a or explore
12 the possibility of re-siting the actual
13 antenna system that would make it easier to
14 ensure that there was no interference that was
15 found.

16 In addition to that, there are a
17 variety of other mechanisms that can be
18 explored: receiver diversity, interference
19 canceling, filtering, shielding, and so on
20 that could make the sites more immune to any
21 form of interference.

22 So these are areas that they

1 recommended that we explore to understand this
2 better. And those are really the only two
3 recommendations. The third recommendation was
4 that the group needs to continue to work. I
5 view that as not a real recommendation. It's
6 a fact of life.

7 CO-CHAIR ROSSTON: I think
8 everyone can accept the third recommendation.

9 MEMBER ROBERSON: Very, very good.
10 Thanks, guys. And that moves us to the CMC
11 liaisons' point of view. And I will warn all
12 of you that this is a very strange
13 circumstance in that I found Mark constraining
14 me in my perspective. Usually Mark is quite
15 outspoken and has strongly held views. In
16 this case, he was, "Don't you think we should
17 tone this down?" We had a very, very
18 significant role reversal since I am usually
19 the calming water kind of person. But, in any
20 event, that was just to prepare you and buckle
21 your seat belts for the next chart.

22 The perspective that Mark and I

1 share is that geographic exclusion zones,
2 which is the recommendation and the attention
3 that the Working Group has not yet been able
4 to come to closure on, that geographic
5 exclusion zones really are not the optimal way
6 to proceed. This is the recommended way.
7 This is the fast track report. But this is
8 not really the most appropriate way to
9 proceed.

10 The notion is that we should use a
11 different construct. It has many problems
12 because the terminology is undefined. And, in
13 fact, exclusion zones have some of this as
14 well. But the proposal is that we establish
15 coordination zones, zones that are not
16 excluded but, rather, where there is careful
17 work done so that the operation of the --
18 presuming cellular units, that those cellular
19 units operate in conjunction with and in close
20 coordination with the government sites, the
21 NOAA sites primarily but also DoD sites.

22 The second alternative -- and

1 these are mix and matches, alternative 4 would
2 suggest -- is that this is a prime opportunity
3 for temporal sharing. This is a very
4 well-known environment. These are not moving
5 targets. We have 18 very, very fixed sites.
6 They are quite large sites.

7 The satellites are few in number.
8 They are quite predictable in their path,
9 though they can be moved. There is some
10 dynamism in the satellites. But the movement
11 time is in hours, at minimum, sometimes days.
12 And, as I suggested in LTE, we're talking
13 about milliseconds as the ability to change,
14 turn off all the LEUs in the extreme case.

15 So you have the circumstance where
16 the locations and particularly those of keen
17 interest are actually receiving information
18 less than five hours a day and actually
19 considerably less in most cases. And half of
20 those are in the middle of the night.

21 So from a temporal sharing
22 standpoint, this is a poster child. And this

1 is why I have gotten, as some of you have
2 heard, quite excited about this, because if we
3 can't temporally share in this circumstance,
4 where can we temporally share?

5 All these problems are very
6 difficult. I am going to say something that
7 will be like your comment about dumb devices.
8 But this is the simplest of our circumstances.
9 Most of the rest of the challenges we have are
10 much, much more difficult. So to me temporal
11 sharing is really a critical area that we
12 should be looking at.

13 The third alternative -- and this
14 is based on some number of measurements that,
15 actually, both Mark and I have conducted since
16 in our other lives, we do this sort of thing
17 -- if you put up an antenna and look for LTE
18 receivers or not receivers but LTE end user
19 devices, it is very difficult to find them.
20 There is so much power control since we are
21 trying to have these devices use very little
22 battery and you're trying to get the spectrum

1 efficiencies. The cellular providers and
2 their equipment providers behind them are
3 driven in a direction that is exactly
4 compatible with the needs of the satellite
5 providers.

6 So the power level is so low, the
7 usage cycle is so low that you, for the most
8 part, can't see the devices. There is some
9 perspective -- it clearly needs to be tested
10 -- that you could do whatever you wanted with
11 the LTE system and the satellite receiver
12 sites would never see it, very much to be
13 tested. Certainly there are extreme cases
14 where you would not have that be the case.
15 Alternative 3 is just enjoy life, put out the
16 LTE systems, and continue up.

17 And alternative 4 is obviously a
18 mix and match alternative of 1 through 3
19 because these are not independent. The three
20 are definitely not independent approaches but
21 that certainly are worth considering.

22 The next slide talks about

1 geographic exclusion zone issues. There are
2 a variety of issues. We have worked at this
3 currently. And this will be refined. This is
4 part of even our discussion this morning. But
5 currently there is sort of an order of
6 magnitude or more difference between different
7 views.

8 And that comes in our simulation
9 result. That comes to play because of
10 differences in propagation models, differences
11 in understanding what cell site layout might
12 be, LTE power, LTE duty cycle. This is
13 getting the parameters again that Larry
14 mentioned, getting them really nailed down,
15 all of them nailed down.

16 Some of the assumptions that you
17 can make would suggest extreme power levels,
18 but, again, if those extreme power levels
19 existed, cell phones really wouldn't work. So
20 we need to get this really nailed down.

21 And this is not in any way a blame
22 assignment. It is just a state of where we

1 are with the communications of the information
2 not yet completed.

3 There are LTE configuration
4 questions; deployment on mountains, for
5 instance, the cell size, the temporal
6 adaptation.

7 Cell size is getting smaller and
8 smaller and smaller. LTE cell size is tiny
9 and moving smaller with small cell devices or
10 systems that are being deployed. So these
11 kinds of things are there.

12 This temporal adaptation is really
13 important with the rapid ability to change the
14 configuration. One of the areas where there
15 has been some level of agreement in principle
16 and there is a need -- and this is
17 interference to noise ratio that may or may
18 not be familiar to most around the table, but
19 this whole notion of adding power into the
20 system. Even though you can't see discrete
21 end user devices, you are raising the noise
22 floor by virtue of this. And that is

1 understood but perceived to be modest, but it
2 needs to be actually fully vetted.

3 Directionality of antennas. As we
4 are moving to very, very smart antennas, that
5 needs to be built into this as well.

6 All of these things actually, as
7 we understand these better, make the analysis
8 better and better and better. There are
9 additional tests that are needed, but these
10 tests are eminently doable tests. They are
11 not extraordinary efforts.

12 We had discussion this morning.
13 Mark and I pointed out that it's at most a few
14 months worth of measurement work. The change
15 from this morning was measurement work. The
16 argument this morning was, "Well, that's the
17 measurement work. It's going to take you a
18 year to get the measurement plan in place so
19 that you have an agreement on what you are
20 going to measure."

21 And that may well be true based on
22 some of the experience within the Working

1 Group, but the actual measurements are very
2 simple. And it's the sort of thing that we
3 will probably regret, but Mark and I
4 volunteered that we could do most of the
5 measurements and do them at no cost. That is
6 not an infinite number, but, you know --

7 (Laughter.)

8 MEMBER ROBERSON: That's the
9 regret part. But we have the tools. And I,
10 in particular, have the luxury of having
11 graduate students, which Mark doesn't. He has
12 to pay for his. But we do have the ability to
13 do a lot of this work.

14 So the recommendation of the
15 liaisons is that we should continue forward to
16 identify the perceived issues, particularly
17 with the temporal sharing and the field
18 strength approaches that have a good life
19 against all the LTE. Industry should conduct
20 the tests, but we will need to have the tests
21 vetted. And this is really critical so that
22 there is government confidence looking over

1 the shoulders to ensure that when the tests
2 are completed, that they are accepted as being
3 reasonable representations of what is needed
4 to understand these sharing capabilities.

5 We do need also to conduct
6 temporal and geographic exclusion zone tests
7 to understand that side. If we do establish
8 a zone, what should that zone look like?

9 In the instance that after all we
10 have said and done on temporal and the field
11 strength we decide that what we really do need
12 to do is the geographic exclusion zones -- and
13 this is my contentious one, and it wasn't
14 meant to be; it was actually a real statement
15 -- for reasons not understood by me mostly,
16 but if there is a geographic reason that I
17 don't understand for geographic exclusion
18 zones, then we should get on with it,
19 establish the zone, establish them broadly,
20 but establish a mechanism, a tried and true
21 mechanism that moves rapidly as the issues can
22 be resolved that we can shrink the zones down

1 very rapidly to the level that they need to
2 be.

3 The critical feature of this last
4 bullet is that there need to be resources in
5 place to enable this to happen in a timely
6 manner. There is a great deal of anxiousness
7 in the industry to move forward. And there
8 are some of us that deal with this on
9 religious principles. And, like me, sharing
10 is something that we need to get on with.

11 We have too long tarried when the
12 technology has moved on to take advantage of
13 sharing opportunities that are out there. And
14 I think we have got to be in a place where we
15 move forward on those.

16 And, with that, I will welcome
17 your questions and thoughts. Mark, first of
18 all, did you want to amplify?

19 MEMBER MCHENRY: I think the field
20 strength approach, you want to just go for it.

21 It was regulate --

22 MEMBER ROBERSON: It is regulate.

1 MEMBER SUGRUE: You kind of
2 overstated what it was.

3 MEMBER ROBERSON: Okay. I do have
4 sometimes a tendency to do high contrast. So
5 thank you, Mark.

6 CO-CHAIR ROSSTON: So in the
7 temporal sharing case --

8 MEMBER KAHN: When you are talking
9 of the temporal sharing, are you thinking of
10 that in a technological sense of like, you
11 know, there's a communication line that comes
12 out of the satellite receiver stations to the
13 local carrier who owns the spectrum in that
14 area that says "About to receive. Please go
15 quiet" kind of thing. I mean, that type of
16 handshaking would be --

17 MEMBER ROBERSON: Yes. That would
18 be an implementation. There may be others.
19 The satellites --

20 MEMBER KAHN: Since you know --

21 MEMBER ROBERSON: You know where
22 the satellites are. You can track them. You

1 can actually go on the internet right now and
2 you can --

3 MEMBER KAHN: Right. And you were
4 talking about the fact that they can
5 potentially move and stuff. And so, I mean,
6 assume an automated approach --

7 MEMBER ROBERSON: Yes.

8 MEMBER KAHN: -- of some sort
9 would be --

10 MEMBER ROBERSON: Right.

11 MEMBER KAHN: -- ideal and --

12 MEMBER ROBERSON: Exactly.

13 MEMBER KAHN: Okay. Thanks.

14 MEMBER ROBERSON: Yes.

15 CO-CHAIR ROSSTON: Are there other
16 comments?

17 (No response.)

18 CO-CHAIR ROSSTON: So, at least
19 from my perspective, you know, maybe I'm
20 wrong, but it sounds like you have different
21 recommendations or are trying to push the
22 Committee in a different direction or a little

1 further than it has gotten to so far.

2 But your recommendation 3 of
3 continuing to work is I think -- to get the
4 Committee to incorporate your views or
5 something, it would be useful to try to
6 increase the amount of sharing available and
7 trying to come up with ways that are -- you
8 know, these things that are able to increase
9 sharing without increasing interference.

10 MEMBER ROBERSON: Right. No.
11 That is exactly right. The group, the Working
12 Group, I am very sensitive of the Working
13 Group was meant to time-out by the end of
14 September. And I find that I seem to be much
15 more religious about dates than others. He
16 said, "Well, you know." But, you know, when
17 we said September, that seemed like the right
18 endpoint.

19 There is work absolutely
20 continuing. Ivan and Steve are carrying on.
21 I think Ivan in one of the emails said, "We
22 don't know how to fail" or a comment similar

1 to that.

2 So there is a perspective that we
3 will through the Working Group process achieve
4 an endpoint. The endpoint is taking much
5 longer than I would have hoped. There are a
6 variety of reasons for that, not bad people,
7 not -- the process seems much more obvious
8 than the endpoint that we're achieving in a
9 timely way that I would hope that we might
10 achieve it.

11 So that was the basis on which
12 Mark and I put together a proposal, which is
13 not inconsistent with where the Working Group
14 may end up; that is, my hope that the Working
15 Group will get there, but the Working Group is
16 not yet there.

17 At the same time, Mark and I felt
18 that it would be of benefit to the group to
19 hear the thinking that we had in place.

20 CO-CHAIR ROSSTON: Rick?

21 MEMBER REASER: Rick Reaser. I
22 like your temporal thing, by the way, because

1 that is very predictable.

2 So where is the push-back coming
3 from? Is it from the commercial wireless
4 people or from the feds or where is it coming
5 from? Because, to me, that would be a very
6 simple thing because, even when they move it,
7 that comes out.

8 MEMBER ROBERSON: Yes.

9 MEMBER REASER: That's all
10 available on the internet because people want
11 to know when they're going to get their
12 weather data.

13 So, to me, if you could have an
14 arrangement where the wireless guys plug into
15 that and then take appropriate action, it
16 seems to me that's a gold mine.

17 MEMBER ROBERSON: I would agree.

18 (Laughter.)

19 MEMBER REASER: So where is the
20 push-back? Like why is that --

21 MEMBER SUGRUE: Well, there was
22 one push-back, "We were told to do exclusion

1 zones, and that's not exclusion zone." And
2 there's no proof that that works. And, you
3 know, this is life or death. People have a
4 lot at stake here. And they want to have hard
5 proof it works.

6 MEMBER KAHN: What do you mean by,
7 though, that there's no proof it works?

8 MEMBER SUGRUE: Well, there is no
9 proof that you can do temporal --

10 MEMBER ROBERSON: We have not
11 implemented this system yet.

12 MEMBER KAHN: Where is the proof?
13 I mean, if you are not transmitting, you are
14 not interfering. So I'm just curious what you
15 mean by "proof" there. I am not trying to be
16 difficult. I just don't understand the
17 statement. What would constitute proof that
18 if you are not transmitting, you are not
19 interfering?

20 MEMBER SUGRUE: Well, maybe you
21 get to the framers up and you screw up. LTE
22 takes two hours to respond. You could think

1 of a lot of reasons it wouldn't work. It
2 hasn't been proven. That's a reasonable thing
3 to ask for proof.

4 CO-CHAIR ROSSTON: The timing.
5 You may not respond as quickly, I guess, or --

6 MEMBER SUGRUE: Right. I mean,
7 this may be a law that would be very hard to
8 undo later. So they want to see more proof.

9 MEMBER ROBERSON: This is why Mark
10 has been trying to tone me down because as a
11 professor, this is -- and, as most of you
12 know, former --

13 MEMBER SUGRUE: Would you put all
14 your --

15 MEMBER ROBERSON: -- have some
16 responsibility for producing cellular systems
17 as well. And this is --

18 MEMBER SUGRUE: Would you put all
19 your net worth up that this will work?

20 MEMBER ROBERSON: Sure,
21 absolutely. Absolutely.

22 MEMBER REASER: But equipment

1 fails. There are things that get broken.
2 There are lots of ways to have interference
3 scenarios, I mean, that are totally -- do we
4 have proof that some of these other things
5 will never work, that a single generator won't
6 go haywire and just jam stuff? I mean, we
7 don't have proof of any of these.

8 MEMBER SUGRUE: Well, you asked
9 what the reasons are. Those are the reasons.

10 CO-CHAIR ROSSTON: Jennifer?

11 MEMBER McHENRY: And they are
12 reasonable reasons.

13 MEMBER WARREN: Just a kind of
14 thought follow-up on what I hope is a
15 practical approach, in light of the
16 recommendations that that liaison chairs have,
17 which I don't believe we are in a top-down
18 mode yet, right? I mean, it's still all the
19 working groups are still supposed to be doing
20 their work, but the proof part, is there a
21 plan to an agreement that there need to be the
22 studies to develop that "proof" --

1 MEMBER ROBERSON: Well, that is
2 what I --

3 MEMBER WARREN: Sorry, Mark.

4 -- and what is acceptable as proof
5 in terms of what is the defined demo, what is
6 the analysis, et cetera? That is my question
7 to Mark and Dennis.

8 MEMBER ROBERSON: No. And between
9 what Mark has said and what you are raising,
10 this is the issue to establish the test plan,
11 the definitive test plan. That was the point
12 that was raised this morning, that
13 establishing something -- the tricky part of
14 this is when you are trying to prove that it
15 will never interfere, having done this in a
16 few other domains in my life, it is a
17 wonderful thing as a researcher because
18 proving a negative is virtually impossible
19 because you always come up with a "Well, did
20 you think about, well, what about" -- and,
21 actually, there are researchers who have been
22 in my employ who have worked for 25 or 30

1 years trying to prove that something would not
2 cause a problem. And you never can get to the
3 endpoint.

4 So you have to at some point say,
5 "Well, you know, we have tried an adequate
6 number of ways. We have done this from an
7 inspection of the way in which the structure
8 operates. And let's go for it."

9 There are a few things, though,
10 that we can do. And there was agreement this
11 morning that this conversation is bringing up.
12 An important part of this for determining the
13 field strength is to actually take 4G
14 handsets; that is, LTE handsets, out, put them
15 in the environment, run around, and find a
16 receiver. There are backup receivers.

17 The suggestion was that the ideal
18 place for this was Fairbanks, Alaska, which
19 wasn't --

20 (Laughter.)

21 MEMBER ROBERSON: Nonetheless --

22 CO-CHAIR ROSSTON: In January.

1 (Laughter.)

2 MEMBER ROBERSON: Yes. It was
3 suggested that January would be an ideal time,
4 but I am sufficiently invested in this, from
5 Mark's point, that I am happy to go to
6 Fairbanks, Alaska personally and to be
7 involved in the test.

8 My students may not be quite as
9 happy, but I am happy to do that. And I think
10 that will be an example of how we can prove
11 this out.

12 We can more exhaustively do the
13 LTE EU, more cities, more places to create a
14 database. But getting to a final endpoint is
15 where you ultimately always have to make a
16 judgment. You have to make a decision because
17 you can't exhaustively prove that it will
18 never interfere. It's not possible to ever
19 get to that point.

20 CO-CHAIR ROSSTON: Jennifer?
21 Bryan? Tom?

22 MEMBER WARREN: I hope I can

1 suggest that this should be exhaustive. I was
2 asking, if we are not there, if there had been
3 any agreement as to what was adequate. And,
4 as I understand what you said, there isn't.

5 MEMBER ROBERSON: No.

6 MEMBER WARREN: And I think, then,
7 there is a separate point, which I don't
8 remember if Dennis or Mark made, which is
9 exclusion versus coordination zone and the
10 impact of that just generally, irrespective of
11 temporal sharing, because this is a separate
12 matter --

13 MEMBER ROBERSON: Yes, it was.

14 MEMBER WARREN: -- that the
15 Working Group will come forward because I do
16 get a little nervous when we start trying to
17 top-down things because that could be a
18 tendency in a lot of different working groups.

19 And it would be beneficial to have
20 consensus-driven for a brand new approach to
21 sharing, which is having everybody sitting
22 around the table, all 70. And it's not

1 getting into Working Group level. Let me tell
2 you. It's a new exercise.

3 And I think while it may be taking
4 a little longer and certainly Working Group 5
5 is taking a little longer, it's a process that
6 has to unfold and goes back to the point
7 Janice said at the very beginning, which is
8 trust.

9 And if the process isn't allowed
10 to work and, all of a sudden, people get
11 frustrated at the top down, I think that
12 starts to undermine, then, what is the purpose
13 of the last couple of months of working
14 together?

15 So I just think we need to be a
16 little sensitive to that, too, in our
17 discussion. Though I think it's great to hear
18 what members and liaisons are thinking, I just
19 would want to raise that issue.

20 Thank you.

21 CO-CHAIR ROSSTON: Thanks.

22 Bryan?

1 MEMBER TRAMONT: I am tempted to
2 respond to Jennifer, but, instead, I will go
3 right before.

4 First of all, I think it's --
5 especially in the last ten days, you guys made
6 tremendous progress. I think this is a very
7 productive report. So thank you for that.

8 One question I had, so is there
9 thought yet on what a work plan would be? In
10 other words, are we going to -- by the January
11 meeting, you would have a test plan agreed to
12 by the Committee and then there would be a
13 final report?

14 I just feel like, you know, we all
15 started with certain dates. And, Dennis, you
16 were very sensitive about this September 30th
17 date.

18 The other groups have an
19 end-of-the-year or January date. I just think
20 one of the things that has been revealed
21 during the course of all of the discussions in
22 all of the groups is that these things take

1 longer than everyone expects. And we all have
2 to sort of keep as aggressively as we can on
3 the schedule. All the constituent groups have
4 to keep working diligently because it is
5 taking longer than we thought.

6 And for this band, in particular,
7 right, we have a 2015 assessment date or
8 auction date by the Commission, if I remember
9 correctly. So there is a real legal
10 imperative here to getting a plan together.

11 And I just urge the Committee if
12 you have an idea of what that looks like now
13 and you want to talk about that, that would be
14 great, but I think we all just have to keep
15 focused on that timeline.

16 CO-CHAIR ROSSTON: Tom?

17 MEMBER SUGRUE: Yes. I wanted to
18 make two points, but one is that one. There
19 is a deadline at the other end. And we need
20 to focus our efforts on that or we lose an
21 opportunity. And those are real deadlines.

22 The Commission typically will

1 follow the law. We will feel bound to follow
2 the law. So we will do something fairly
3 suboptimal possibly if there are other
4 alternatives available.

5 Consensus is great. Consensus is
6 not unanimity. It doesn't mean that legally,
7 and it can't mean that practically if any sort
8 of -- I will just put a little footnote on
9 that. I am not saying you were suggesting
10 that.

11 Also, Mark, you mentioned that one
12 of the problems is, well, we were told to look
13 at exclusion zones, so, damn it, it's
14 exclusion zones only. Can we get that issue
15 off the table at least?

16 That is sort of like an
17 ultra-virus thing. This Committee was not
18 authorized to look at these other sharing
19 scenarios. And that is, just, frankly, in my
20 view a red herring. If we need to authorize
21 them or do something a little different, let's
22 authorize them because there is something

1 constructive going on here. And I think it
2 should continue.

3 CO-CHAIR ROSSTON: Kevin?

4 MEMBER KAHN: Yes. I want to
5 endorse that for another reason as well, which
6 is from my perspective, exclusion zones -- I
7 mean, I understand that they may be the key to
8 getting sharing to happen, but, quite
9 honestly, they are a cop-out to the sharing
10 problem in the long term, right?

11 They basically allow the two sides
12 to put their head in the sand and say, "Yeah,
13 we're sharing because, you know, you're doing
14 something in California. We're doing
15 something in New York."

16 And at the end of the day, that
17 does not really help us with the large, writ
18 large, spectrum sharing problem. So I think
19 it's a terrific technique to do things quickly
20 in some cases.

21 And, certainly opportunistically,
22 it is a good thing to have in our bag of

1 tricks to be able to do stuff, but, you know,
2 I really applaud the effort to look at things
3 other than exclusion zones because if we are
4 ever going to get to a discipline that allows
5 really good sharing across a broad set of
6 spectrum bands, it is going to have to be
7 based on things other than simply excluding
8 cooperates where. And if this is a first
9 really practical example of how we could do
10 that, that would be terrific.

11 And so the last thing I would
12 want, as Thomas was saying just now, you know,
13 is that somebody says, you know, gets behind
14 a procedural thing that says all we can look
15 at is exclusion zones and uses that as an
16 excuse. So I would hope that we can actually
17 actively go after other solutions here.

18 CO-CHAIR ROSSTON: So I have seen
19 a lot of heads shaking around the table around
20 exclusion zones. I think that I would love to
21 ask if there is anyone who has an objection to
22 sort of give at least a -- if there's no

1 objection to giving the Committee the charge
2 to going further than exclusion zones, that
3 would be great, but Janice wants to speak on
4 this.

5 MEMBER OBUCHOWSKI: I have at
6 least a caveat. This is --

7 CO-CHAIR ROSSTON: Those of you on
8 the phone, could you mute your phone?

9 MEMBER OBUCHOWSKI: Do you want me
10 to speak or --

11 CO-CHAIR ROSSTON: Yes.

12 MEMBER OBUCHOWSKI: Okay. I have
13 a caveat to that. I don't, per se, have a
14 caveat to this discussion as far as this
15 Committee's work, which, you know, I am not
16 terribly familiar with.

17 Having said that, as you know,
18 CSMAC's recommendations on fees made their way
19 into legislation. That was a recommendation
20 that was by far, you know, very much argued
21 and certainly not one that was a consensus.

22 And my concern is that in some of

1 these more sophisticated cases, frankly, we
2 have got a Committee that has got probably 80
3 percent participation for people who is -- we
4 are all here doing our best, but, you know,
5 people who have strong instincts vis-a-vis a
6 commercial perspective on spectrum, making
7 recommendations as to systems that they are
8 just learning about in the working groups, and
9 issues such as enforcement in the more
10 sophisticated PCAST cases haven't been ironed
11 out and won't be ironed out and, frankly, are
12 going to be resolved largely in the commercial
13 domain at the FCC because if it's a case of
14 enforcing a reg as it pertains to a commercial
15 player, interfering into a government player,
16 Larry doesn't have baton.

17 And I am very wary of moving
18 forward in the next two months recommending
19 more sophisticated sharings in much more
20 sophisticated instances, such as the ones we
21 are looking at in Committee 5.

22 CO-CHAIR ROSSTON: People on the

1 phone, can you please hit mute? There is
2 someone who is making noise.

3 MEMBER OBUCHOWSKI: So that is my
4 caveat. Sure, we are an independent Advisory
5 Committee. We can come in here and talk about
6 just about anything we want to talk about, but
7 I would object in the next two months coming
8 up with recommendations about major, major
9 technology developments that have not been
10 thought through from start to finish because,
11 frankly, anything that comes out of here could
12 easily be end-run through the legislative
13 process. That has happened once with CSMAC,
14 didn't help the trust factor, and it could
15 happen again.

16 So at that point I put down a
17 marker and say, "I am not particularly
18 comfortable saying I am going to buy off on
19 sophisticated sharing vis-a-vis" or even just
20 saying, "We are going to have minority and
21 majority positions in the next two months"
22 when we haven't thought through many more

1 implications.

2 CO-CHAIR ROSSTON: Jennifer?

3 MEMBER OBUCHOWSKI: Tom and I have
4 discussed these issues for the last 20 years.

5 MEMBER SUGRUE: Yes.

6 CO-CHAIR ROSSTON: Tom?

7 MEMBER SUGRUE: You were a lot
8 more progressive thinker 20 years ago.

9 (Laughter.)

10 MEMBER WARREN: They say wisdom
11 comes with age.

12 I think I was recognize?

13 CO-CHAIR ROSSTON: Yes.

14 MEMBER WARREN: Great. I do have
15 to associate with some of what Janice said; in
16 particular, what else would need to accompany
17 that expansion of scope. There are a lot of
18 other factors. I mean, exclusion zones are
19 kind of tried and true. They proved out in
20 other areas.

21 I think there are a number of
22 regulatory issues. I mean, I think some of

1 those CSMAC reports about enforcement and
2 other things that need to be in place for
3 sharing of this type need to be addressed,
4 then, completely in parallel with buy-off as
5 to how this would -- not just the technology,
6 not the technological handshake but the
7 regulatory handshake. And that would have to
8 be a complete package, as opposed to relying
9 100 percent on the technology.

10 So I share Janice's concerns and
11 would think that only with that kind of
12 complete package would there be that ability
13 because, unlike exclusion, this is a new area
14 of law. I agree we don't have to be bound by
15 the NTIA fast track report. We are trying to
16 provide guidance to NTIA in the areas that
17 they have asked for.

18 And so that would be my response.

19 Thank you.

20 CO-CHAIR ROSSTON: Tom, did you
21 now want to say something more?

22 MEMBER SUGRUE: Well, I will say

1 it was an excellent report that came out under
2 Janice's name 20 years ago on spectrum
3 management. And it does address sharing in
4 there somewhat in ways that are consistent
5 with what I think the Working Group is doing.

6 I just think, you know, we have
7 got a window closing here, for better or
8 worse. I will go back to my timing. We have
9 an opportunity. We have some very expert
10 people. And we should get on with the work.
11 And we'll deal with these issues going
12 forward.

13 And I understand the concerns and
14 the trust factor as well, but, you know, it
15 comes almost to a sort of a nihilism here that
16 there is too much risk. I mean, if that is
17 what it is, we should probably just disband
18 the whole effort.

19 I don't think -- I am not
20 suggesting that. I mean, we really have an
21 opportunity to make some progress here. We
22 have what looks like a good sort of

1 circumstances to sort of test it, as Dennis
2 said, in a relatively easy case. I mean, if
3 it doesn't work here, then maybe we just all
4 go home and take our little spectrum and hold
5 on to it. But let's try it here at least, and
6 let's not try to shut this effort down.

7 I would like us to get to some
8 sort of resolution in a couple of -- you know,
9 and I will disagree with the notion that that
10 is where my consensus and unanimity -- I mean,
11 I think tasks meant sometimes consensus became
12 a demand for unanimity. And, you know, it's
13 a recommendation. We are in an Advisory
14 Committee.

15 And the fact that some people act
16 on the recommendations is not something that
17 should dissuade us from making them. You
18 know, you can decide, you know, tell us to get
19 lost and often you do.

20 (Laughter.)

21 MR. NEBBIA: I have never told you
22 that.

1 CO-CHAIR ROSSTON: He has always
2 said it much nicer than that.

3 Bryan?

4 MEMBER TRAMONT: Yes. We have
5 gone to a lot of lengths to have a very open
6 and transparent process across all the working
7 groups that bring a wide variety of expertise
8 from government systems as well as commercial
9 systems like Working Group 1 has.

10 Working Group 1's mandate in my
11 mind was broader. What is the best way to
12 utilize this spectrum and identify 15
13 megahertz for commercial use? I think saying
14 that we are only going to use one tool in the
15 tool box is unnecessarily narrowing.

16 Now, I understand why an initial
17 review might have said exclusion zones are the
18 answer. They may still be the right answer.
19 But I think it is a failure of the process if
20 we're not based on the expertise of the entire
21 group trying to make sure that we find the
22 most efficient way to be stewards of that

1 spectrum.

2 And I think it may be exclusion
3 zones. It may be the temporal sharing we
4 talked about, but it's a failure of the
5 process if we are going to say we are only
6 going to look at exclusion zones.

7 So I just would echo the idea that
8 Greg originally posited, which is that the
9 mandate should go back to figure out the best
10 way to share and to ensure the integrity of
11 both systems, knowing that the representation
12 of this Working Group is diverse and has the
13 expertise needed to come to some conclusions
14 about this, as supplemented by the testing
15 regimen that has been proposed.

16 CO-CHAIR ROSSTON: Tom and then
17 Janice?

18 MEMBER DOMBROWSKY: Yes. I just
19 want to add to that because the exclusion
20 zones were really derived based on the
21 knowledge that went into the fast track
22 report.

1 What these working groups have
2 discovered is more information. That should
3 be allowed to be factored into discussion. So
4 it actually flows very well with what Janice
5 was saying. We have got more technical
6 information. We have technical people around
7 the table. They should be able to move
8 forward with that information.

9 CO-CHAIR ROSSTON: Janice?

10 MEMBER OBUCHOWSKI: Well, given my
11 advanced age --

12 (Laughter.)

13 MEMBER OBUCHOWSKI: -- I am not
14 sure I can respond to some of the fast talk
15 around the table.

16 (Laughter.)

17 MEMBER OBUCHOWSKI: Well, I will
18 make a couple of points. I prefaced my
19 comment by saying that as to this case, which
20 was -- and I don't know it well, but from what
21 I have heard, it is a somewhat more clean-cut
22 case. I wasn't taking that concept off the

1 table.

2 But I just sat through Working
3 Group 5, where I think some of the commercial
4 players had their minds blown by the
5 complexity of that band, which will only
6 become more complex as, God willing, we get
7 out of Afghanistan and Iraq and bring some of
8 this equipment home.

9 I don't want to see us sit here
10 and talk about things that have not been
11 proven. The PCAST report put them in a set of
12 recommendations. Have legislation passed
13 without the other half of the trust factor
14 addressed.

15 When the FCC sets up an advisory
16 committee stacked with government people in
17 equal number to talk about how it is going to
18 address sharing from its end, I think that
19 trust will be established. I don't think we
20 are there yet.

21 CO-CHAIR ROSSTON: Okay. I think
22 we probably should sort of -- at least my view

1 based on Janice's last statement is that the
2 sense is in this Working Group to move forward
3 with thinking not only about exclusion zones
4 but other things.

5 MEMBER OBUCHOWSKI: Right.

6 CO-CHAIR ROSSTON: I think that is
7 the sense of what I have gotten from around
8 here unless there is someone who objects to
9 telling that committee, you know, "Go forward
10 and give us your best technical
11 recommendations on all possible mechanisms,"
12 that would be great and that we have that
13 caveat in mind to ensure that the government
14 representation is there as well.

15 With that, I think we should
16 probably move on to Working Group 2.

17 MR. STRICKLING: Yes. I think Tom
18 Sugrue started a new mode of engagement here
19 that I think we all should take some concern
20 about.

21 (Laughter.)

22 MR. STRICKLING: But no. I just

1 wanted to say that, first off, I want to thank
2 Dennis and Mark for their commentary. I am
3 very excited by this report. And the reason
4 is that here in a very short period of time,
5 at about three months, I think we have really
6 brought into focus and we are now confronting
7 the challenges that we have in trying to
8 execute on what we all know we have to do as
9 a country, which is to find a way to share.

10 So the absolute wrong response to
11 this would be to say, "This is getting too
12 hard. Let's go home." And I don't hear
13 anybody saying that, but we absolutely should
14 reject that.

15 Your recommendation number 3,
16 which is to keep working, is absolutely the
17 right recommendation. And this is the place,
18 these working groups are the place, to get
19 these issues into focus and try to settle
20 them.

21 We are clearly, as Janice points
22 out, dealing with new territory for people,

1 especially the federal agencies. And we just
2 have to acknowledge that it is part of the
3 process. It means things take a little bit
4 longer.

5 But you have made so much progress
6 here in three months in terms of taking this
7 so far beyond where we had it at the end of
8 the fast track report that everybody should
9 take a pause and just take a lot of pride in
10 where this has gotten. And that is both the
11 federal agencies and the industry people who
12 participated in this.

13 So I think there is a solution
14 that jumps out at us from when we look at
15 this. I don't know what the right one is, but
16 I am confident that there is a way to
17 accommodate everyone's interest when we are
18 trying to take this huge step forward into a
19 new way of operating in a shared environment.

20 It seems to me the issues are on
21 the table. It is now a question of sitting
22 down and getting people comfort to deal with

1 the trust issue, as Janice says.

2 I think all of this is imminently
3 workable. And I think it is incumbent on all
4 of us to do it here in this group, as opposed
5 to trying to do it in an NPRM proceeding that
6 the FCC would have to start.

7 The more these issues can be
8 settled now with consensus, which, as Tom
9 points out, is not unanimity, but it's
10 consensus, we are all going to be better off.
11 The agencies will be better off. Industry
12 will be better off to be able to go in and
13 have a proceeding started at the Commission
14 with many of these issues resolved.

15 So all I would just urge everybody
16 to do is get back at it. You have got an
17 incredible menu of opportunities here to
18 explore. And I am confident that given the
19 good faith I have seen so far, you all are
20 going to come up with a solution here.

21 CO-CHAIR ROSSTON: Unless it's
22 urgent, I want to thank Mark and Dennis for

1 their report and for their work and also Steve
2 Sharkey and Ivan Navarro for really heading
3 this stuff up.

4 Did you want to make a --

5 MEMBER TRAMONT: Just a quick
6 question. What is our goal by January? I
7 guess I just wanted to figure out where we
8 think we can be by January in terms of moving
9 it forward. I mean, I don't know what the
10 expectation is from Karl and Larry and others
11 about when we sort of have to wrap this up for
12 purpose of the FCC doing their deal. So can
13 we just maybe be a little bit on schedule for
14 Working Group 1 and goals?

15 MR. NEBBIA: Yes. I think, first
16 of all, a critical first step that has to be
17 taken is resolution of the view of how we
18 model the network. That is not only critical
19 for this group, but it is critical for the
20 other group. So that if we can get that
21 wrapped up in the next week or so, I think
22 it's a very, very important goal.

1 I do think that looking at the
2 different possibilities here, certainly if we
3 can come to conclusions on certain ones of
4 them and resolve them, that they, in fact,
5 would be prepared in a way that we could have
6 them all written up and so on for when the
7 Commission is going to inevitably get to their
8 beginnings of a rulemaking and moving toward
9 that auction. And that really needs to be
10 wrapped up and on the table by January. I
11 mean, we have got to be there.

12 So it may mean that not all of the
13 components are in place, but every component,
14 you know, these new suggestions that you have
15 made, if they can reach agreement within the
16 various parties, that moves us that much
17 further ahead.

18 And then maybe at some point even
19 after that, we do more actual testing of
20 implementing this timing mechanism and so on.
21 So that maybe by then, as the Commission
22 rulemaking goes on, we are even more prepared.

1 But the main part of it we
2 absolutely have to have ready in January. We
3 actually have the report due to Congress in
4 February. And we have got to base it off of
5 what is going on in this group.

6 I mean, Ed has got to start
7 writing now. So, in fact, I mean, I am sure
8 he is taking what you are writing other than
9 the misspelling of the word "assess" that is
10 in there, I am sure he --

11 (Laughter.)

12 MR. NEBBIA: I know that was cut
13 out of one of Tom's emails, but, anyway, I am
14 sure he is building directly off of all of
15 this work in order to be prepared.

16 But certainly we have got to have
17 a main part of this wrapped up by January.

18 CO-CHAIR ROSSTON: Okay. So again
19 thank you to Working Group 1. Let's move on
20 to Working Group 2. I don't know whether Dave
21 Borth or Tom Dombrowsky is going to talk. It
22 looks like Tom is --

1 MEMBER DOMBROWSKY: Yes.

2 CO-CHAIR ROSSTON: -- leaning
3 forward and ready to go. So let's go.

4 - WG2 1755 - 1850 MHZ LAW ENFORCEMENT
5 SURVEILLANCE AND OTHER SHORT-RANGE FIXED

6 MEMBER DOMBROWSKY: On the bright
7 side, this group will be very quick.

8 This is the law enforcement
9 surveillance and land robotic system as well
10 as other short distance things. This group
11 actually had had some advantage in that there
12 was a lot of work done during AWS1, 1710 to
13 1755, that was directly relatable to this.

14 So there has been no work on
15 sharing studies because we reached the
16 determination five years ago that sharing
17 between these and the commercial systems just
18 would not work.

19 So the focus of this group has
20 been completely on getting a plan together in
21 terms of priorities for the industry,
22 providing their priority markets for what they

1 might get early access to, and then providing
2 that to federal agencies so they could try and
3 match up as best they can, taking into account
4 their needs and requirements.

5 So the primary discussion has been
6 all about these markets and market priorities.
7 The industry is going to put together some
8 sort of aggregate information on priority
9 markets and then provide that to the federal
10 agencies with the understanding that obviously
11 each agency is going to have different
12 capabilities in meeting those priorities, but
13 at least they will have that information as
14 they make their decisions on relocation.

15 So regular meetings, very big
16 group going on. We don't have a need for any
17 confidential information to be traded. So I
18 think this Working Group is sort of
19 progressing along.

20 We have a draft report already.
21 It is just a matter of dotting i's and
22 crossing t's. So I think this Working Group

1 is actually moving along fairly quickly.

2 CO-CHAIR ROSSTON: Are there
3 comments or questions for Tom? So I will take
4 Bryan's question for you, which is you said
5 you move fairly quickly. When do you expect
6 to have a draft report?

7 MEMBER DOMBROWSKY: Well, I think,
8 again, it all comes down to getting those
9 priority markets agreed to in that. And the
10 goal is to sort of finish that up this month
11 and next month. Then the question is, how
12 quickly can we agree on the report? So
13 obviously they are headed towards the January
14 date, --

15 MEMBER BORTH: Yes.

16 MEMBER DOMBROWSKY: -- which is
17 what everybody has been looking for, but I
18 think we may actually beat that if everybody
19 is in agreement very quickly.

20 MEMBER BORTH: Yes. Everyone
21 understands January is the time and before the
22 CSMAC meeting is, in particular.

1 CO-CHAIR ROSSTON: Great. Okay.
2 Moving onto to -- on average, we're getting
3 done much shorter reports.

4 (Laughter.)

5 CO-CHAIR ROSSTON: So that puts
6 pressure on you, Rick. This is Working Group
7 3. I assume it's Rick going to be talking
8 since --

9 - WG3 1755 - 1850 MHZ SATELLITE CONTROL
10 LINKS AND ELECTRONIC WARFARE

11 MEMBER REASER: Yes. This is
12 Rick. I don't think Charlie was able to -- a
13 lot of the group was out at a meeting on the
14 West Coast and so forth.

15 Our Working Group is not moving
16 very quickly at all, to be quite honest with
17 you. I had thought that it was going to be
18 one of the easiest ones because essentially we
19 had basically three questions on the table.
20 I'll sort of restate those.

21 We needed to define what the
22 interference environment that the cell towers,

1 the towers, would experience from the ground
2 stations and define that. We needed to make
3 an assessment as to whether there was going to
4 be an aggregate interference problem to the
5 satellites. The third thing was to get some
6 kind of a statement or something out of
7 electronic warfare community about what was
8 going on there.

9 So back we have met a number of
10 times. I would say that the government guys
11 outnumbered the commercial guys quite a number
12 of people.

13 So we met our first face-to-face
14 in August first. And we laid out the series
15 of questions primarily from the private sector
16 side, about 13 questions with many
17 subquestions, probably about 30 different
18 elements of information, very, very specific
19 things that you can look at the website. And
20 we also had a discussion about electronic
21 warfare.

22 These questions were kind of

1 agreed to and so forth. And so we waited for
2 about two months. And then on Monday or
3 Tuesday, we got a briefing from the federal
4 side. And it doesn't answer all of the
5 questions, obviously. And it raises a number
6 of new questions that we had not anticipated
7 in the group. And so we are still digesting
8 that.

9 Most of the people are tied up
10 with this Working Group. And I have been
11 trying to sort of decide and make a checklist
12 of what questions were and were not answered.
13 It would have been more helpful if the DoD
14 would have kind of gone through the list of
15 questions and said, you know, like, "Location
16 of ground stations. Okay," blah blah blah,
17 "Power level of ground." You know, but we
18 have this other briefing, which doesn't really
19 match up with what the questions were. And
20 many of the questions weren't answered.

21 So the plan is on that piece, we
22 have another face-to-face meeting on the 16th

1 and sort of go through about what did and did
2 not get answered in that particular thing.

3 Now, there has been some
4 reluctance, I guess, or some not reluctance or
5 some difficulty in terms of providing some of
6 this information, much of which was provided
7 in the past, which I find kind of interesting.

8 And then also one of the things
9 that was of interest to industry was having a
10 source for this information because, you see,
11 at the end of the day, what we are going to
12 try to do, what we need to do, is define what
13 the interference scenario is in a technical
14 way that a cell tower would have to
15 experience. And then that would actually go
16 into the auction role so that people would
17 know what it was they were doing.

18 So what has to happen is somebody
19 needs to define either worst case or best case
20 or some number so that people can site towers
21 and so forth and do that in a way that they
22 don't get interfered with.

1 The issue here, once again, is not
2 that the cellular system would interfere with
3 this, with the ground stations. It is the
4 opposite.

5 So that has been very, very
6 difficult to get that information. And we
7 don't have enough right now. And so that is
8 going to be part of the real dilemma, I think.

9 And so we are going to go through
10 and go through this briefly. It would be nice
11 if we could get sort of just the answers to
12 our questions. You know, what color is the
13 sky? Blue. You know, just answer the
14 questions. You go down the line. So that is
15 part. So we have to go through this
16 bookkeeping process.

17 I am going to read you a couple of
18 comments because these are very interesting,
19 I think something the group would be
20 interested in hearing, some of the statements
21 in this briefing we got.

22 On the electronic warfare, at the

1 first meeting, what we had asked for as a
2 group was that, hey, we just need some
3 statement for the report.

4 This is the other problem. I
5 don't think that the federal side is focused
6 on the report as much as they could be. We
7 have draft text that has never been looked at
8 by the federal side, and that needs to happen.

9 Then the real issue is most of
10 this stuff is going to come from them because
11 that is where we are going to define what the
12 interference scenario is and so forth. And we
13 don't really have any text to put in.

14 But I think on electronic warfare,
15 where we are headed -- and we have been
16 waiting for two months, you know, for this
17 sentence or statement -- is that electronic
18 warfare operations operate on a
19 non-interference basis anyway. We don't give
20 frequency assignments to jammers. In fact, we
21 don't even certify those systems. NTIA
22 doesn't do that. And so they operate on a

1 non-interference basis. So they have to do
2 their own kind of risk analysis and so forth.

3 And the impression that we got at
4 the meeting was that DoD would like to
5 possibly expand beyond that and have some
6 other mechanisms that they could kind of work
7 out with the private sector in case they
8 wanted to go beyond a non-interference basis.
9 And so we're just waiting for that text.
10 Hopefully some day soon it will come and we
11 can put that in the report because I believe
12 that is where they are headed, although they
13 are not really certain about that.

14 On the satellite uplink
15 interference issue, we got some interesting
16 statements. And that is yet to be resolved.

17 So I am just going to read you a
18 couple of statements out of this briefing
19 guide which I thought were kind of
20 interesting. One of the statements -- and
21 this is not going to be helpful. And I will
22 sort of tell you what my personal opinion is.

1 I haven't been able to talk to Charlie since
2 Tuesday because I was flying out here
3 yesterday.

4 Basically the basic concept is
5 that the data is a reasonably accurate
6 engineering summary in response to industry
7 questions. Well, "reasonably accurate"
8 probably is not going to cut it for auction
9 rules.

10 So we need to finally say, "Okay.
11 This is a number." And either it has margin
12 on it or there is a caveat or something like
13 that. And then this data will change in the
14 future.

15 Well, it would be nice to know if
16 there are some brackets on that. Is it going
17 to change 100 percent or 50 percent or what
18 does that mean and any conclusions or sharing
19 arrangements or license agreements, et cetera,
20 that must be left to future additional data
21 surveys and senior policy determinations?

22 So I am not exactly sure how the

1 Committee can deal with that statement. That
2 will be interesting. So we are going to talk
3 about that on the 16th.

4 Another statement we talked about,
5 an aggregate, AR to sat ops, we thought we had
6 put this to bed a long time ago.

7 Sharing agreement should require
8 further coordination for any significant
9 departure from planned 4G LTE architectures.

10 Well, I'm not sure how to deal with that.

11 That will need to be bracketed. And one of
12 the issues we get into is if you go overseas,
13 you know, how is that going to work and so
14 forth?

15 So basically they said it appears
16 to be acceptable based on prior studies and
17 assumptions of handset users. So what we have
18 asked for is a copy of their study and their
19 analysis and report. We didn't get that. We
20 are hoping to understand what the assumptions
21 were that went into their assessment of that
22 because one of the things that we were hoping

1 to get out of the group was a common technical
2 assessment from both sides.

3 I am not sure that is going to
4 happen or not because what we would hoped to
5 have had was, say, "Okay. Here are all the
6 input" because we ask for like, "What is your
7 receiver sensitivity?" And all of those are
8 kind of available commercially. Boxes are
9 available. You know, you can buy them.

10 So we were hoping to have like a
11 common set of assumptions, a common analysis,
12 and agree to a common set of numbers. I am
13 not sure whether we are going to be able to do
14 that, but that is another concern about what
15 we do in the uplink.

16 And then in its concluding chart,
17 basically they've got the data must be
18 revisited prior to conclusionary actions. And
19 then cooperative DoD industry analysis and
20 testing is needed to assess possible sharing
21 solutions.

22 I spoke with Colonel Martin about

1 this testing idea. It wasn't clear exactly
2 what we were going to be testing in this
3 regard. If you are testing on a
4 non-interference basis, EW system against it,
5 I suppose we could test that. The testing
6 that goes into the interference in some of the
7 receiver, there is possibly a way to test
8 that. That would be very difficult to do.

9 And then the other side -- this is
10 the part that Charlie is kind of worried about
11 -- the analysis of what the interference is
12 and how to site a cell tower is really up to
13 the industry. That is not a DoD problem or a
14 federal government problem. What was hoped
15 was that they would have an interference
16 environment upon which to base their own
17 conclusions about how they would go do stuff.

18 So having both parties agree as to
19 how I site towers and my channel plans, I am
20 not sure that is entirely useful. I think
21 that kind of drags this process through the
22 mud because, really, the industry is going to

1 have to go sort that out and decide, you know,
2 what the spectrum is worth under that
3 condition in an auction. So that's of
4 concern.

5 So after reading this yesterday in
6 the hotel room before I came over here, I am
7 worried that we are not progressing very
8 quickly on this point. We need to sort of get
9 things jump-started and get the right data out
10 and so forth. And if we can't have the data,
11 the thing I propose at every meeting is maybe
12 at some point we say that what we have got to
13 do if you can't give us the data is that we do
14 a measurement program that basically the
15 commercial wireless guys go around every site,
16 make an assessment of what the interference
17 environment is. And then the safest thing to
18 do would be able to put on every cell tower,
19 you know, a detector. When they see the
20 satellite pointed in their direction or the
21 power rising in that band, that particular
22 band, then they would actually take action to

1 reschedule transmissions in the band. That
2 would be the way. And that way you may not
3 need any data.

4 But, like I said, I don't think we
5 are going to meet anything by January. We
6 don't even have the basic answers to the
7 questions from August yet. So it will be a
8 slow thing. But that might be a reasonable
9 approach.

10 Looking at the preliminary data,
11 it turns out that the opportunity for sharing
12 should be quite high. They only transmit on
13 one frequency at a time. And it's not 24/7.
14 And it's only in certain directions. So it's
15 not in every direction all the time in all
16 frequencies.

17 And so it would seem to be great
18 opportunities to do that. We understand that
19 we're not going to do the thing you had where
20 basically you can tell them ahead of time,
21 "That is not going to happen." There are
22 obvious security reasons for that.

1 You could come up with some
2 numbers that say, "Okay. Here is what I do."
3 But the best thing may be for the commercial
4 wireless guys who build in detectors to just
5 stay out of the band when they are going to
6 get interfered with.

7 MEMBER KAHN: But if I understand,
8 I mean, this is satellite control, right? So
9 it's typically on a pretty high azimuth
10 anyway.

11 MEMBER REASER: No. They get --

12 MEMBER KAHN: Oh, they get b

13 MEMBER REASER: They gave us
14 numbers. They aren't very long at the low
15 azimuth. In fact, when they are at a low
16 azimuth, they are basically going pretty fast.
17 And so they are not going to be very quick on
18 the low horizon. But they did actually give
19 us a full-up pattern down to like three
20 degrees. And it will do that at times.

21 You remember they use this band
22 for essentially -- with the exception of GPS,

1 they use it for anomaly resolution. So
2 they're really trying to get a hold of this
3 satellite on an emergency basis. That's
4 typically what this is used for. It's
5 launched early over at operations in anomaly
6 resolution. That is what the band is used
7 for.

8 And there is a lot of that that
9 goes on. And so yes, there will be a low
10 azimuth at a certain time. And there has not
11 been a proposal by industry "Hey, can you just
12 always go above ten degrees?" That hasn't
13 come out in industry. I don't think that
14 would be accepted, but that has certainly not
15 been something that has been suggested.

16 MEMBER KAHN: But it is really
17 just interference into the commercial side.

18 MEMBER REASER: Yes, it is.

19 MEMBER KAHN: Worst-case
20 commercial --

21 MEMBER REASER: The other
22 direction about --

1 MEMBER KAHN: If it happens, it
2 happens infrequently enough.

3 MEMBER REASER: Yes.

4 MEMBER KAHN: I just accept the
5 fact that I am interfered with and get out of
6 there or do something else.

7 MEMBER REASER: Yes. That was
8 sort of my -- if we can't get the data to come
9 up for the model, then maybe that is the best
10 way to do it.

11 On the other one, it is an
12 interference into the satellites. And so this
13 has kind of always been curious to me because
14 I worked on this before because in other
15 countries and in Europe, this band is used for
16 the handsets a lot. I mean, that is their
17 handset band.

18 And so if we have a problem in the
19 U.S., they probably ought to be having a
20 problem with uplink interference into the
21 satellite receivers and other places besides
22 us. And I don't think that's true, but I

1 guess it certainly is a concern because the
2 more and more you have, you know, maybe if you
3 have a satellite over the Atlantic, you can
4 see both Europe and the U.S. or something like
5 that.

6 CO-CHAIR ROSSTON: Did you want to
7 say something?

8 MR. NEBBIA: I just think we need
9 to move on to the next.

10 CO-CHAIR ROSSTON: I know. Okay.
11 Any last comments before we go on, then? My
12 one comment is that you seem like you are
13 having trouble getting information or
14 frustration. If Karl or Larry can help you
15 with that, I am sure they would be happy to.
16 Try to put pressure if they can.

17 MEMBER REASER: I think, Karl, you
18 saw the briefing that came out in --

19 MR. NEBBIA: I have not seen it.

20 MEMBER REASER: Okay.

21 CO-CHAIR ROSSTON: Janice?

22 MEMBER OBUCHOWSKI: I promise I

1 won't -- I hope I won't start something here.

2 (Laughter.)

3 CO-CHAIR ROSSTON: Tom?

4 MEMBER SUGRUE: I'll be the judge
5 of that.

6 MEMBER OBUCHOWSKI: No, no. You
7 know, I have not followed this closely. But
8 just the words "the electronic warfare," one
9 can assume some of the concerns here. And one
10 cannot say, "Well, it works in Europe"
11 because, frankly, if you look at the world in
12 which we are operating, the U.S. and a few
13 other strategic allies might see the world
14 quite differently and approach some of these
15 issues very differently and are contending
16 with adversaries who are much more focused
17 upon us than other nations.

18 And, again, I don't know the
19 answer here, but I would recommend that in
20 seeking help in how to address this, you know,
21 Larry and senior people could help us because
22 some of this may only get resolved on the

1 level of principle.

2 You know, nobody is going to sit
3 down. My opinion -- and I am not an engineer,
4 but why in the world if this is some kind of
5 strategic electronic warfare move we're making
6 are we going to negotiate this in its
7 technical dimensions? It just doesn't --
8 common sense says this isn't going to be the
9 way this gets resolved by the United States of
10 America.

11 And if that is the case, I don't
12 know how much time we can devote to this. You
13 know, I admire Rick's technical acumen. I am
14 sure he has got a lot of fixes. And if he
15 were a god, you know, he could probably work
16 this all out.

17 But, you know, at a level of
18 policy, I would love to see, you know, Larry
19 and senior people raise this as the kind of
20 issue that we need policy direction on and we
21 may never have a technical answer to.

22 MEMBER REASER: The proposal from

1 DoD is not to change any policy on electronic
2 warfare at all. Right now the policy is they
3 operate on a non-interference basis for
4 electronic warfare operations in this country.
5 And there has been no attempt to change that.

6 The idea I think that was
7 presented by Lieutenant Colonel Orwan was that
8 they would like to have an opportunity to get
9 a better deal than NIB at certain locations at
10 certain times.

11 And so I don't think we are
12 looking. We are looking at maybe expanding to
13 give DoD more access to spectrum at certain
14 things and maybe actually interfere with
15 wireless and have them change frequencies at
16 someplace if they want to do some big
17 exercise.

18 So we just need the text. Again,
19 all we are looking for is the text. And the
20 other stuff is sort of like, you know, if you
21 can't tell us what interference environment we
22 are going to get for the wireless guys, then

1 maybe we just need to not get that and go with
2 an alternate.

3 That's not very well-liked by the
4 wireless guys, by the way. They would much
5 rather have a more elegant solution that
6 doesn't require additional hardware on towers
7 around satellite uplink stations.

8 CO-CHAIR ROSSTON: Karl?

9 MR. NEBBIA: Certainly,
10 non-interference basis means you turn off if
11 you bother somebody. In this particular case,
12 they have to have the ability to train. This
13 is the last band that they get to train in
14 where there is real commercial equipment and
15 so on.

16 So there has to be an expectation
17 that if they need to do the testing and
18 training, they are going to get access in a
19 way that would not meet the normal
20 requirements of non-interference. They just
21 have to have some way to gain access and an
22 agreement to do that.

1 So, based on that, I would then
2 suggest we go on to Working Group 4.

3 CO-CHAIR ROSSTON: Okay. Thank
4 you, Rick, for that and for the co-chairs as
5 well.

6 Mark Gibson?

7 - WG4 1755 - 1850 MHZ FIXED POINT-TO-POINT
8 AND TACTICAL RADIO RELAY

9 MEMBER GIBSON: Okay. Hi. First
10 of all, I apologize for not being here in
11 person, but I think we can do just fine over
12 the conference.

13 Essentially what I would say is we
14 are dealing with some of the same issues in
15 our Working Group as Rick is with his. And
16 that is, you know, essentially you are getting
17 clearance on presentation information.

18 I think the good news is that we
19 are having meetings and they are ongoing. We
20 probably could get a little more easily
21 scheduled so that they are stationed, but I
22 think we have it under control.

1 And our product has been
2 circulated for feedback. So that's good. And
3 that is moving along as well.

4 But where we kind of stumble a
5 little bit is on the FDR JTRS. There was a
6 report last year. There was also a report, an
7 analysis, that was presented in our last call.
8 I believe it was last week. And that was I
9 think the result of a report hat has been
10 referred to in the NTIA final report I think
11 as DoD 2.

12 And so what was really presented
13 in that was a couple of slides on an analysis
14 methodology and then representation of some 30
15 exclusion zones where the JTRS operations are
16 amiss.

17 Most of the exclusion zones we
18 believed we could understand them, but several
19 of the exclusion zones were not fully plotted
20 out. There was just one paper. And it
21 somewhat affected the area of operations.

22 So what that did is it elicited a

1 response back of tasks or a set of questions
2 to be answered, more analysis methodology.

3 The other question is what we got
4 was what looked like dual presentations.
5 There were no K&L files so that we could
6 determine the extent of the exclusion zone as
7 far as being able to replicate analysis and
8 research analysis.

9 So that discussion happened. And
10 then it was presented. I forget who it was.
11 Dave is going to run this back through the
12 process to see if more information could be
13 provided based on the questions that were
14 asked in the presentation and then elicited
15 questions that were sent out.

16 So we are still working on the
17 JTRS systems. And I think basically what I
18 have to agree with what Rick is saying, this
19 kind of concerns me a little bit because the
20 length of time it is taking to get to this
21 information is putting peril on getting our
22 reports done in the time frame we need, at

1 least for JTRS.

2 So I would echo what Janice said
3 and what everyone sitting around the table has
4 that if there is anything that can be done at
5 a policy level to move this along a little
6 better, that would be helpful.

7 And we also have to work on the
8 TRRs, which I think what we are going to ask
9 to do if we are ready on the JTRS information,
10 get back up and help on the TRRs and maybe do
11 this stuff in parallel.

12 The other thing that is probably
13 different for the JTRS system, as opposed to
14 any other systems that are being worked on, is
15 we don't really know what the frequency
16 assignments of the systems are. Whether or
17 not that is classified, you know, we are not
18 sure, but in the total assignment that is in
19 the report, we are not sure how many of them
20 are JTRS systems. We are not really sure of
21 the magnitude of the problem. Are we talking
22 just a few assignments? Are we talking across

1 an entire band? We just don't know whether we
2 are going down a rabbit hole with this or
3 whether it's really a problem. So any work
4 that could be done on fine-tuning the data as
5 it relates to the assignments would be very
6 helpful.

7 That is really it. I think, you
8 know, we are making progress, but we are
9 getting slogged down with getting stumbling on
10 the JTRS system. And so, like I said,
11 anything that can be done to move that along
12 would be appreciated.

13 CO-CHAIR ROSSTON: Kevin, you look
14 like you are leaning forward.

15 MEMBER KAHN: Yes. Mark, it's
16 Kevin. I know Mike was pretty frustrated a
17 while back on the JTRS situation in terms of
18 information and willingness to provide
19 accurate assessments of what their flexibility
20 was. Has that improved any in your --

21 MEMBER GIBSON: No. I think at
22 first, I think where my frustration came from

1 I think is, you know, when we had the first
2 meeting was when we learned that we were going
3 to have to deal with JTRS. And so that was my
4 frustration.

5 Mike wasn't able to make the last
6 call. So I'm not sure you've heard from him
7 lately. I guess on the commercial side, I
8 would share some of that frustration, really,
9 because I think we see the deadline of January
10 approaching pretty fast. And we want to make
11 sure we get some interim report outlined
12 before then.

13 I'm not saying that there isn't
14 commitment on the other side to get that
15 information. I'm just saying it is taking a
16 long time to get clearance for it.

17 So what might be worthwhile in
18 this is to have some agreement up front to
19 check for these questions that we sent out on
20 the type of information we're looking for so
21 they could be clear what we want, rather than,
22 you know, sort of going one step deeper than

1 not having issues but having issues and going
2 back in and getting it.

3 CO-CHAIR ROSSTON: Okay. Are
4 there other comments or questions for Mark?

5 (No response.)

6 CO-CHAIR ROSSTON: All right.

7 Thank you, Mark.

8 MEMBER GIBSON: Okay. Thank you.

9 CO-CHAIR ROSSTON: And I think we
10 will move on to Working Group 5. And that is
11 Jennifer and Bryan. Jennifer is going first.

12 - WG5 1755 - 1850 MHZ AIRBORNE OPERATIONS

13 MEMBER WARREN: Yes. Please don't
14 turn off the microphone.

15 Just one administrative thing to
16 report on on the Working Group 5. There is
17 going to be a change in co-chair leadership.
18 Many of you may know Fred Moorefield, who was
19 the Air Force side, the government side. He
20 is moving up to DoD CIO's office. And so his
21 boss, Colonel Reese, will be replacing him as
22 co-chair with Verizon. So just FYI on that

1 front.

2 Overall, the Working Group had a
3 really strong early start. It has slowed down
4 a little bit. And I'll talk about some of the
5 reasons for the slowdown and actually maybe
6 make a recommendation on one way that NTIA
7 could help with some of the challenges.

8 We have had six meetings to date,
9 two face-to-face, the last one being
10 yesterday. So the updates are fresh.

11 And I think it's important to say
12 that, even though this group has the shortest
13 title, it has the most diverse set of systems
14 and the greatest complexity, so much so that
15 it had to be divided into four subworking
16 groups focused on, again, very different
17 subsets of issues. As Janice said, kind of
18 overwhelming.

19 I think the rate of work in each
20 of the subworking groups has varied a little
21 bit. The ACTS, which is the Air Combat
22 Training System, Q5 group has had some pretty

1 good progress. Based on reporting out
2 yesterday, they have taken the first cut at
3 interference scenarios and working on some
4 refinements for greater accuracy to maybe
5 reduce some of the exclusion zones.

6 But overall they have provided
7 typical training missions to base their
8 analysis on. So it seems to be that there is
9 a positive momentum in that group.

10 With respect to the small UAF and
11 the PGM group, there is data that is missing
12 and still coming in. I should say that
13 overall Working Group 5 has had a lot of
14 briefs, started to slow down because there is
15 a holdup on some of the data. And that is
16 what I want to talk about at the end and maybe
17 a way forward.

18 So what will happen, a number of
19 data briefs, there are still ones that either
20 have been released at the service level and
21 are awaiting DoD release from a higher level.

22 And then with respect to AMT,

1 which is the fourth group, they have made I
2 think some progress. They are discussing
3 propagation models and how we review the
4 initial LTE parameters. And, like all the
5 working groups, subworking groups are waiting
6 for, I guess the Working Group wanted a
7 kick-out from the new revisions that went in
8 Tuesday night from industry.

9 So, you know, there are reviews
10 that went on. One is done. I think they
11 realized that they may be able to start some
12 of their two-way interference scenarios.

13 The one issue there is that right
14 now they are working off of 2010 database at
15 their station locations, but they are not
16 going to wait to update that. I think they
17 are going to try and start there because there
18 has not been a lot of movement. And that
19 would be a good starting place.

20 So while they had a strong start,
21 it has slowed down because there is some delay
22 in some of the briefs.

1 Most of them are user briefs.

2 There are also two non-user briefs that I'll
3 call regulatory briefs that people are
4 wanting, too. One is an NTIA one. One is an
5 FAA one on the small UAS rules that they have
6 in development.

7 Some of the take-aways I think
8 from yesterday are that the Working Group
9 needs to catalog what is missing, but not only
10 what is missing, but I think John put it very
11 well yesterday.

12 What is missing that would impede
13 analysis beginning because that is really what
14 we are trying to go to, right, is the ability
15 for analysis to start but also the methodology
16 but then the analysis to start. And that
17 needs to take the next step.

18 With respect to -- I already
19 mentioned the GMF. So I won't go through that
20 again. With respect to the data hold-up,
21 since, as I understand it, it really is a
22 legal review within the Pentagon, perhaps

1 General Counsel to General Counsel discussions
2 could be most beneficial because I understand
3 there is a question about how do you share
4 data in a public forum, maybe a FACA public
5 forum, where you may not be able to create
6 subgroups of those who are cleared and not
7 cleared? I think there is just a question
8 that perhaps the General Counsel who manages
9 the FACA processing question could work with
10 the General Counsel's office at the Pentagon.

11 So that is a personal
12 recommendation. I have not had a chance to
13 run that past Bryan. So if you would just
14 agree?

15 (Laughter.)

16 MEMBER WARREN: Actually, you
17 will. The original suspend date for the
18 industry briefs was the end of September. And
19 while I think we are not quite at the level of
20 frustration that is -- it has been moved to
21 October 15th. So there is a goal to have all
22 the information briefs done by then.

1 And I think, you know, even though
2 we recognize that the 60-90-day time frame of
3 working days left for the January schedule is
4 pretty tight, we haven't moved that yet. And
5 I think it's fair to say both of the chairs
6 indicated to me yesterday that both industry
7 and government feel challenged with the
8 resources given the complexity and the
9 diversity of what is being studied in Working
10 Group 5.

11 So I just share that with you.
12 And that is where --

13 CO-CHAIR ROSSTON: Bryan?

14 MEMBER TRAMONT: First of all, I
15 wholeheartedly endorse the --

16 (Laughter.)

17 MEMBER TRAMONT: No. One just
18 sort of process question, is NTIA getting
19 transparency into when the committees are
20 requesting information from government users?
21 I don't know. I don't know how much
22 transparency you have. It seems like there

1 are times where it would be useful for NTIA to
2 call and sort of see like what the schedule
3 is.

4 I mean, the commercial guys, we're
5 trying to be aggressive with keeping the
6 commercial folks moving and getting the things
7 that the government users want. But I don't
8 know if it might be useful that when requests
9 go in to government users, that you know about
10 them or there is a maintain of central charts
11 so that when things are taking too long, you
12 can place calls to the leadership. I was just
13 curious if that sort of tool would be useful.

14 MR. NEBBIA: First of all, we have
15 NTIA people in each of these groups.

16 MEMBER TRAMONT: Right.

17 MR. NEBBIA: And, to be honest
18 with you, I am trying not to have my finger on
19 every step that everybody takes here. So I
20 would prefer not to be monitoring every
21 request for information. That's I think for
22 our people to do, for the liaisons to

1 participate in.

2 If there are difficulties, I
3 certainly want to hear about it and our people
4 come in and give me feedback when there is
5 slowdown. So I think that is the approach we
6 have taken thus far. There have been a couple
7 of groups here highlighted today where maybe
8 things are moving more slowly than they need
9 to, and we can certainly approach that.

10 As for me wanting to have another
11 board on my wall with all the questions that
12 have been asked and what everybody's response
13 is, I would rather not have --

14 MEMBER TRAMONT: I guess that
15 escalation process is working. In other
16 words, I know you don't have all your folks in
17 the room, but is that escalation process
18 working well from where you sit? Obviously we
19 have some groups that are stuck a little.

20 MR. NEBBIA: I think it is working
21 adequately. I mean, we certainly have a
22 couple here clearly we've got to follow up.

1 And we will do that.

2 And I have to give everybody
3 credit. There has been an amazing amount of
4 work and information that has been passed.
5 So, to some extent, I live with the daily
6 question of how hard can I beat the pig to
7 move the pig along, you know?

8 (Laughter.)

9 MR. NEBBIA: Anyway, so yes, we're
10 dealing with it. But certainly we understand
11 that there are a couple of groups here that
12 are wrestling with that. And we will
13 certainly follow up.

14 CO-CHAIR ROSSTON: Okay. I think
15 we are ready to move forward. Thank Working
16 Group 5. And I will miss getting all those
17 emails from Fred Moorefield.

18 Associated Spectrum Measurements.
19 I think this is Tom.

20 MEMBER SUGRUE: Yes. No wise-guy
21 comments except I do want to say that -- and
22 some of you know this, but, despite our little

1 back and forth, Janice Obuchowski is not only
2 a good and dear friend but my former boss and
3 a real mentor of mine in my career and someone
4 for whom --

5 MEMBER OBUCHOWSKI: It gets worse
6 than that. We've had an office marriage. I'm
7 kidding around.

8 MEMBER SUGRUE: Right.

9 MEMBER OBUCHOWSKI: We've been
10 bickering with each other for the last 30
11 years. I'm also kidding around about that.

12 MEMBER SUGRUE: Anyway, well,
13 that's right. We had a great working
14 relationship, but it wasn't based on always
15 agreeing with each other. So that was part of
16 it.

17 - ASSOCIATED SPECTRUM MEASUREMENTS

18 MEMBER SUGRUE: T-Mobile and other
19 members of the industry have been actively
20 working together on a project with the
21 government in cooperation from NTIA and the
22 Defense Department to test for sharing

1 possibilities in the 1755 to 1780 band, which
2 I think everyone knows is of prime interest in
3 the commercial mobile world.

4 T-Mobile on behalf of the industry
5 was able to secure an STA, a Special Temporary
6 Authorization, to conduct testing in
7 partnership with DoD.

8 We are devoting significant
9 resources, we and others in industry. And by
10 "resources," I mean both people and money.
11 There are dollars that are being spent that we
12 have had to pony up and the people.

13 Steve Sharkey is not only on
14 Working Group 1, but he is leading this
15 effort. I think he is working more for CSMAC
16 and NTIA than he is for me anymore, but my
17 point of that is just saying that we are --
18 you know, Steve has a small team. And they
19 are spending a lot of time on these various
20 efforts. So we are taking it very seriously.
21 We want it to work and are devoting, as I
22 said, the resources to it.

1 The ultimate goal is to develop a
2 better understanding of the sharing
3 possibilities in that band. We are going to
4 be doing monitoring, simulations, and then
5 eventually actual field testing. And Steve is
6 just going to give you a few of the more
7 details on it right now.

8 MR. SHARKEY: So, like Tom said, I
9 mean, we have got a program that we have
10 initiated. And, really, it is under the
11 auspices of the industry. So we work closely
12 with CTIA. AT&T and Verizon are equal
13 partners in this and a good working
14 relationship there. And we are working with
15 DoD.

16 The idea is to monitor some of the
17 sites where these specific operations are
18 happening to gather some real-world
19 information.

20 I think a lot of the discussion
21 that has been around the table today shows
22 some of the difficulty of getting a very real

1 picture of what is going on out there.

2 So the idea is we have got
3 contracts with a couple of organizations that
4 will do some longer-term monitoring. You
5 know, again, we're working closely with DoD to
6 help us understand the data that we are
7 capturing, that it is accurate data, and that
8 it reflects the systems that are out there.

9 And then we will be moving from
10 capturing real data to doing some simulation
11 and lab testing and then probably eventually
12 more field testing to see how the systems
13 actually inter-operate.

14 You know, like everything else, it
15 has taken longer than I think any of us had
16 hoped it would, but we hope to have monitoring
17 initiated probably I would say in early
18 November and results that will start to come
19 in in the end-of-year time frame, although
20 monitoring will extend beyond the end of the
21 year.

22 CO-CHAIR ROSSTON: Okay. Are

1 there quick questions for Steve?

2 (No response.)

3 CO-CHAIR ROSSTON: Okay. So I
4 think the next three items are Karl's. He's
5 going to talk about the hot new term "Path
6 Forward."

7 PATH FORWARD - THE REPORTING FRAMEWORK

8 MR. NEBBIA: Yes. Certainly we
9 are working toward reports coming up from each
10 of the working groups through the group here.

11 I think it was Tom maybe had done
12 some work on drafting a format. We are
13 looking for a summarization of the results;
14 the specific recommendations of key components
15 of how to move forward; and then, of course,
16 the supporting info. So we will be getting
17 back with you more on that. So I think that
18 is probably as good a summary as I think we
19 need to give at this point.

20 NTIA'S NEAR-TERM SPECTRUM OBJECTIVES

21 (6 TO 12 MONTHS OUT)

22 MR. NEBBIA: With respect to the

1 near-term spectrum objectives and so on we
2 were going to talk about here, the thing I
3 wanted to emphasize is that this is the
4 objective.

5 This work that we're doing in
6 these working groups right now I think is
7 critical to what we are doing. I don't mind
8 taking a hiatus on some of the other
9 subcommittees and so on. To me, this is where
10 the rubber is meeting the road. And I just
11 want to emphasize that.

12 I think this is critical. I think
13 the way we have gotten feedback through the
14 liaisons I think has shown that this process
15 and the connection with this process is going
16 to work. And we have certainly got a
17 tremendous amount of participation.

18 So this is where we are focused.
19 I just want everybody to know that. So if you
20 are looking for more tasking in the near
21 future, this is going to be it on the
22 immediate future.

1 NTIA SPECTRUM MANAGEMENT HOT TOPICS

2 MR. NEBBIA: With respect to what
3 we call hot topics, I just wanted to inform
4 you that our annual report of progress under
5 our 500 megahertz search, we have now finished
6 the fiscal year. So that draft report is in
7 our review process right now. So that will be
8 coming out soon.

9 Also, we have an October 22nd
10 deadline I think on the 5 gigahertz report,
11 where we will be laying out the general risk
12 areas of what we would call I think a
13 qualitative study basically pointing out what
14 systems the government is using in this new
15 potentially expanded wi-fi band, how it
16 differs from the bands we have done work with
17 before and any consideration along that line.

18 I know industry is waiting for the
19 outcome on that so we can begin to make
20 progress on those, analyzing those systems.
21 So that initial report will also be coming out
22 in the next few weeks. It is well into its

1 review cycle. So that is all I have got to
2 say on those.

3 Greg?

4 CO-CHAIR ROSSTON: Okay.

5 Committee questions and discussion? Any?

6 Yes, Kevin?

7 COMMITTEE QUESTIONS AND DISCUSSION

8 MEMBER KAHN: Just a real quick
9 process question. I never remember that the
10 official tenure of a CSMAC, but typically
11 around the turn of the year, nominally we are
12 kind of going through the reappointment. But
13 we've got this whole in-flight set of
14 activity.

15 I am just curious what the process
16 is to keep continuity, et cetera, as we do
17 that or is there one?

18 MR. STRICKLING: Yes. I think
19 that the dates of everybody's re-upping come
20 up next spring -- is that right? -- for May
21 for just about everybody?

22 MEMBER KAHN: That's probably

1 about right.

2 MR. NEBBIA: So, once again, we
3 have a little bit of time to work with there,
4 but obviously if we're in flight --

5 CO-CHAIR ROSSTON: At the very
6 least, the working groups will continue, the
7 liaisons. But hopefully they will have
8 reports done or close to done by the end of
9 this.

10 Opportunity for public comment.
11 Is there anyone in person first who would like
12 to make a comment?

13 (No response.)

14 CO-CHAIR ROSSTON: Is there anyone
15 on the phone who would like to make a comment?

16 OPPORTUNITY FOR PUBLIC COMMENTS

17 MR. LUBAR: Yes. This is Dave
18 Lubar, Raytheon. I would like to make a
19 general comment.

20 CO-CHAIR ROSSTON: Okay. Go
21 ahead, Dave. Please speak loudly.

22 MR. LUBAR: This thing between the

1 parties for an independent entity for analysis
2 and coordination, as I listened to your report
3 early on and I listened to where we are going
4 in some of the working groups, I am thinking
5 an entity which can handle proprietary
6 industry data or government security concerns,
7 had the tech resources, and could model up
8 some of these things, something maybe similar
9 to what they do for area frequency
10 coordinators or AFTRCC, or maybe something
11 completely different.

12 But it is clear that these systems
13 will continue to evolve over time. And I
14 think that kind of a mechanism might be
15 needed.

16 CO-CHAIR ROSSTON: Thank you,
17 Dave.

18 Karl, did you want to say
19 something?

20 MR. NEBBIA: I assume you are
21 talking about on an ongoing sense as AFTRCC is
22 in the business of dealing with telemetry,

1 aeronautical telemetry systems. You are
2 talking about a process and a resource that
3 would go on in the future, correct?

4 MR. LUBAR: Yes. I am talking
5 about a permanent process.

6 CO-CHAIR ROSSTON: Are there other
7 people on the telephone who would like to make
8 a comment?

9 CO-CHAIR FONTES: This is Brian.
10 I just wanted to congratulate you, Greg, for
11 the meeting and also Janice and Tom for their
12 wisdom and insight and particularly I remember
13 them as kids, actually, but, in reality --

14 CO-CHAIR ROSSTON: I think you
15 meant to say wit, wisdom, and insight.

16 CO-CHAIR FONTES: That's right.

17 CO-CHAIR ROSSTON: Yes.

18 CO-CHAIR FONTES: Now, I wanted to
19 just comment. And I thought that the ideas
20 and concepts that were presented today, some
21 of these were I think moving the needle
22 forward when taking a look at the possibility

1 of sharing spectrum with commercial and
2 government entities.

3 And I also just wanted to
4 compliment everybody for all their work. It's
5 a large amount of work that goes into all of
6 these reports and the behind-the-scenes
7 effort. So thank you, everyone.

8 CO-CHAIR ROSSTON: Okay. And then
9 I think the schedule of the next meetings.
10 Actually, one process question. I think that
11 the slides will be posted up on the website?
12 The slides from Working Group 1 that were
13 presented at this meeting are now posted on
14 the website.

15 MEMBER ROBERSON: If it's
16 possible, it would be desirable to update the
17 one typographical error.

18 (Laughter.)

19 CO-CHAIR ROSSTON: Okay. I'll let
20 you deal with Bruce on that one.

21 Janice, another comment, even
22 though you are not part of the public?

1 MEMBER OBUCHOWSKI: I guess I
2 missed my shot, but I did want to say two
3 things. Firstly, as we look to the January
4 meeting, I do agree with Brian's comment that
5 there has been an unprecedented amount of
6 effort and very good effort and mutual
7 understanding or attempts at understanding.

8 I would just like to ask NTIA and
9 the co-chairs to think about what do we do
10 with this work and come back to us with the
11 idea this is a recommendation that stands on
12 its own two feet. It's advanced or not. I
13 don't think we can make a decision on that,
14 but just talking about that would seem to be
15 a very logical next step.

16 And then yes, as a member of the
17 public, I did want to observe that I was
18 sitting here thinking that as somebody who has
19 been at this for 30 years with several people
20 around the table, that I would have never
21 expected when I started down this path how
22 passionate a former French and history major

1 would feel about the radio spectrum. And the
2 reason for it is I think all around this
3 table, we have grown up and into the
4 realization that this is an enormous national
5 asset. I just wanted to say thank you to Tom
6 and everybody here because we do care.

7 And sitting in those working
8 groups, I mean, yesterday people have flown in
9 from bases all over the country. The carriers
10 were represented. We all do care. And I
11 appreciate very much, Larry and your
12 leadership. This is kind of a living process.

13 Thank you.

14 CO-CHAIR ROSSTON: Thanks.

15 SCHEDULE OF NEXT MEETINGS;

16 MISCELLANEOUS ITEMS

17 CO-CHAIR ROSSTON: So we have the
18 schedule of next meetings: January 17th here,
19 February out in a place in California I think
20 I've heard of called Stanford p- February 21st
21 at Stanford, I apologize for that --

22 MR. NEBBIA: So the intention

1 there is to try to get our recommendations
2 together for the January meeting,
3 understanding that it will probably be new to
4 most people at that point. So we would have
5 the February meeting as a follow-up to try to
6 resolve any questions about what we are doing,
7 actually coming to agreement on the
8 recommendations.

9 CO-CHAIR ROSSTON: And I will
10 provide coffee at the February meeting. So I
11 am three minutes late, but I came close. It
12 was a late ninth-inning comeback. So we are
13 going to adjourn the formal meeting. I guess
14 we have ethics training at 12:40 and a 1:00
15 o'clock departure.

16 So the phone bridge will stay open
17 for members of the Committee to go through the
18 ethics training. We will reconvene in six and
19 a half minutes.

20 (Whereupon, the foregoing meeting
21 was adjourned at 12:34 p.m.)

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C E R T I F I C A T E

This is to certify that the foregoing transcript

In the matter of: Commerce Spectrum Management
Advisory Committee Meeting

Before: US DOC

Date: 10-04-12

Place: Washington, DC

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