

UNITED STATES OF AMERICA
DEPARTMENT OF COMMERCE

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COMMERCE SPECTRUM MANAGEMENT
ADVISORY COMMITTEE (CSMAC)

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MEETING

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WEDNESDAY
MAY 30, 2012

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The Advisory Committee met in Room
4830, Herbert C. Hoover Building, 1401
Constitution Avenue, N.W., Washington, D.C.,
at 10:00 a.m., Brian Fontes, Chair, presiding.

MEMBERS PRESENT

DR. BRIAN FONTES, Chief Executive Officer,

National Emergency Number Association,
Chair

DR. DAVID E. BORTH, Independent Consultant

MICHAEL C. CALABRESE, Vice President and
Director, Wireless Future Program, The
New America Foundation

THOMAS S. DOMBROWSKY, JR., Engineering

Consultant, Wiley Rein, LLP

DAVID L. DONOVAN, President, Association for
Maximum Service Television, Inc.*

MARGARET (MOLLY) FELDMAN, Vice President of
Business Development, Verizon Wireless*

DR. HAROLD FURCHTGOTT-ROTH, President
Furchtgott-Roth Enterprises

H. MARK GIBSON, Director, Business
Development, Comsearch

DALE N. HATFIELD, Executive Director,
Center for Law Technology and
Entrepreneurship, University of
Colorado*

DR. KEVIN C. KAHN, Technology Policy
Consultant, Intel

DOUG MCGINNIS, IT Manager of Communication
Infrastructure Strategy, Exelon
Corporation*

DR. MARK A. MCHENRY, President, Shared
Spectrum Company

JANICE OBUCHOWSKI, Founder and President,
Freedom Technologies, Inc.

CARL POVELITES, Assistant Vice President of
Public Policy, AT&T

RICHARD (RICK) REASER, JR., Head, Spectrum
Management Department, Raytheon Space
& Airborne Systems*

DR. CHARLES RUSH, CMR Consulting

DR. DANIEL DEAN STANCIL, Head, Department
of Electrical and Computer Engineering,
North Carolina State University*

BRYAN TRAMONT, ESQ., Managing Partner,
Wilkinson Barker Knauer, LLP

JENNIFER WARREN, Vice President, Technology
Policy & Regulation, Lockheed Martin
Corporation

ALSO PRESENT

KARL NEBBIA, Associate Administrator for
the Office of Spectrum Management

TOM POWER, White House Office of Science
and Technology Policy

LARRY STRICKLING, Assistant Secretary of
Commerce for Communications and
Information

BRUCE M. WASHINGTON, Designated Federal
Officer

* Present via telephone

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

2 (10:03 a.m.)

3 CHAIR FONTES: Good morning.

4 Before we begin, I'd just like to make sure
5 that those who are on the phone who are
6 committee members, if they could identify
7 themselves.

8 MEMBER MCGINNIS: Doug McGinnis
9 from Exelon.

10 MEMBER HATFIELD: Dale Hatfield,
11 University of Colorado.

12 MEMBER FELDMAN: Molly Feldman,
13 Verizon Wireless.

14 MEMBER STANCIL: Dan Stancil, NC
15 State.

16 CHAIR FONTES: If we could only
17 have the members themselves identify
18 themselves, please.

19 ASST. SEC. STRICKLING: Only the
20 committee members, please.

21 MEMBER REASER: Yes. This is Rick
22 Reaser at Raytheon. I was wondering if you

1 could ask everyone who is, like, on the phone
2 call to mute when they're not talking, just as
3 a courtesy.

4 CHAIR FONTES: That would be
5 helpful. Is that all of the committee members
6 on the call?

7 MEMBER DONOVAN: David Donovan
8 with the New York State Broadcasters.

9 CHAIR FONTES: Thanks. Great. I
10 believe we have all the committee members
11 identified who are on the call. I'd just like
12 to go around the table if we could just to
13 identify ourselves so the folks that are on
14 the call will know what committee member --

15 MALE PARTICIPANT: I just joined
16 the call.

17 CHAIR FONTES: Who is this? I'm
18 sorry.

19 (Laughter.)

20 CHAIR FONTES: Okay. I'm not
21 really sure what's going on with the audio
22 here, but if we can just go around and

1 introduce ourselves.

2 MEMBER MCHENRY: Mark McHenry with
3 Shared Spectrum Company.

4 MEMBER OBUCHOWSKI: Janice
5 Obuchowski at FTI.

6 MEMBER POVELITES: Carl Povelites,
7 AT&T.

8 MEMBER RUSH: Charles Rush, CMR
9 Consulting.

10 MEMBER TRAMONT: Bryan Tramont,
11 Wilkinson Barker.

12 MEMBER BORTH: Dave Borth,
13 University of Illinois and independent
14 consultant.

15 MR. NEBBIA: Karl Nebbia, NTIA.

16 CHAIR FONTES: Brian Fontes,
17 CSMAC.

18 ASST. SEC. STRICKLING: Larry
19 Strickling, NTIA.

20 MR. POWER: Tom Power, Office of
21 Science and Technology Policy.

22 MEMBER WARREN: Jennifer Warren,

1 Lockheed Martin.

2 MEMBER DOMBROWSKY: Tom

3 Dombrowsky, Wiley Rein.

4 MEMBER FURCHTGOTT-ROTH: Harold

5 Furchtgott-Roth, Furchtgott-Roth Economics.

6 MEMBER GIBSON: Mark Gibson,

7 Comsearch.

8 MEMBER KAHN: Kevin Kahn, Intel.

9 CHAIR FONTES: Great. Again, I'd
10 just like to remind those who are on the call
11 if they're not speaking to put the phone on
12 mute, that will help everybody who is
13 participating on the phone and here in person.

14 I'd like to just welcome everyone
15 this morning. I'd like to turn it over now to
16 Larry Strickling.

17 ASST. SEC. STRICKLING: Thank you,
18 Brian. I'll be quick. I just want to welcome
19 everyone here today. I just want to tell
20 those of you who felt that CSMAC wasn't
21 working hard enough, who felt that you weren't
22 working on the most relevant issues, that you

1 weren't getting your name in the headlines,
2 we've listened to you, and today I'm actually
3 quite excited to have Karl roll out today what
4 I hope will be a very exciting new work effort
5 under the auspices of CSMAC to really take on,
6 in a serious and intensive way, this question
7 of facilitating sharing between commercial and
8 agency spectrum operations.

9 So there really is a ton of work
10 to get done. Karl has laid out a plan for how
11 we're going to organize to do this within the
12 CSMAC framework and I hope all of you are as
13 excited to get involved in this new effort as
14 we are to have you all involved in this.

15 So with that, I'm just going to
16 turn the mic over to Tom Power from the White
17 House.

18 MR. POWER: Thanks, Larry, and
19 good morning. I really just wanted to thank
20 you all and congratulate you all for rolling
21 up your sleeves and getting down to this
22 important business of figuring out how the

1 commercial industry and federal users can
2 share the 1755 band.

3 It was two and a half years ago
4 that the Obama administration concluded that
5 re-purposing 500 MHz of spectrum from existing
6 uses, both commercial or federal, to wireless
7 broadband was the goal within ten years. And
8 that was later memorialized in the President's
9 memorandum that the President issued in June
10 2010, just about two years ago.

11 And with that direction, NTIA and
12 the agencies really got down to work to figure
13 out how to get to that goal. We've been
14 getting together every couple of weeks for a
15 few hours downstairs in our windowless, but
16 cool, room to, sort of, map out our plans and
17 see where we are.

18 And that's in addition to the
19 individual teams within the agencies that are
20 doing work on their own. Within six months of
21 that memorandum, NTIA and the agencies have
22 identified 115 MHz of spectrum that could be

1 turned over for wireless broadband and make
2 that available for the FCC to start their work
3 in planning on how that could be made
4 available, and then got to work on the 1755
5 band.

6 When we looked back at that
7 memorandum, though, one of the words that
8 jumped out is sharing, because two years ago,
9 we recognized that that was an important piece
10 of the puzzle here. I think it's pretty clear
11 whether you're a federal agency or a
12 commercial provider, sharing is probably not
13 the first option you would jump to in a
14 perfect world, not because we all revert to
15 childhood and that reaction when mom told you
16 to share with your brother. Was that TMI?

17 (Laughter.)

18 ASST. SEC. STRICKLING: But in
19 your case, it's --

20 MR. POWER: But really because
21 exclusive access, if nothing else, brings you
22 certainty. It's just a little bit easier to

1 deal when you know you only have yourself to
2 worry about and that's a good thing. And
3 whether you're trying to plan to protect our
4 training for our pilots, or got unnamed
5 vehicles in the air, or tracks of your
6 weather, or how to invest and build broadband
7 networks to satisfy the skyrocketing consumer
8 demand for broadband, it sort of gives you a
9 good thing.

10 But we know two things. One,
11 spectrum is finite and two, we have compelling
12 needs for spectrum on both sides of this
13 equation, from the government side and from
14 the commercial side. And no one is saying
15 that either of those sides should be ignored.
16 So that's why we're concentrating on sharing,
17 just as the President called for two years
18 ago.

19 I know sharing can encompass a lot
20 of approaches. The FCC has gotten the T.V.
21 White Spaces Program up and running, one way
22 of having devices being able to find out what

1 spectrum is available in the market that the
2 device happens to be located in.

3 Of course, there's a lot of work
4 on cognitive radios and other dynamic spectrum
5 technology so that you can, on a more of a
6 real-time basis, figure out what frequencies
7 are available or not available.

8 And I guess some could say that
9 sharing involves new architectures of the
10 evolving trend in architectures with smaller
11 cells, lower power, allowing greater re-use
12 within a fixed geographic area.

13 And I think for today's purposes,
14 all those solutions, obviously, got to be a
15 part of the answer here. But I think for
16 today's purposes, we really are going to be
17 looking at a more refined focus on what the
18 needs of the federal agencies are, the cost
19 and opportunities involved in relocating
20 versus staying put, what interference
21 tolerance can really be accommodated, how can
22 we accommodate co-existence into the

1 bandwidth.

2 CHAIR FONTES: If we could ask you
3 to put your phone on mute, please.

4 MR. POWER: I usually like hearing
5 myself talk.

6 (Laughter.)

7 MR. POWER: I don't want to give
8 short shrift to the needs on the commercial
9 side either though and how those needs can
10 best be accommodated in the band, as
11 commercial providers figure out how to deploy
12 their networks, and work around, and coexist
13 with the federal users.

14 So getting certainty out of this
15 process is certainly going to be hard. Lots
16 of challenges. Just, for example, on the
17 federal side, the need to protect classified
18 information makes it difficult. On the
19 commercial side, there's proprietary plans and
20 IP analogous to what the agencies face on the
21 classified side.

22 But I'm very encouraged by the

1 fact that we are here today, that you guys are
2 all here today to roll up your sleeves, as I
3 said, and for stepping up to this challenge
4 here and embracing the need to work
5 cooperatively, and sharing. So with that,
6 I'll turn it back to Brian.

7 CHAIR FONTES: Thank you, Tom.
8 Thank you, Larry. I also want to thank all of
9 those who are in attendance today,
10 particularly the committee members, for their
11 continued work through this whole process, and
12 we'll talk about that at the very end.

13 Greg Rosston is unable to be here
14 physically in Washington today. He may be
15 able to join the meeting by conference bridge.
16 So in any event, again, thank you. And I'd
17 like, at this time, to turn it over to Karl.

18 MR. NEBBIA: Thank you very much,
19 Brian. This morning, I'll be doing a couple
20 things. The first aspect that I wanted to go
21 over was to give you some feedback on our
22 1755-1850 report. If you'll recall at our

1 last meeting, the report was not yet available
2 and it came out shortly thereafter, I think,
3 and so some of you may have been on vacation,
4 you may have missed it, so I thought I'd give
5 you a brief summary of where we were.

6 So after we completed our fast
7 track report which identified 115 MHz of
8 spectrum that could be made available on a
9 shared basis, both cases, the 1695 and 1710,
10 and the 3550, 3650 bands, using exclusion
11 areas. And we then had set out our ten-year
12 plan to consider over 2200 MHz of spectrum
13 currently used by the government.

14 We've since added a 195 additional
15 MHz for consideration in the 5 GHz range. So
16 having put together that plan, we then
17 identified the 1755 to 1850 band as the next
18 band to study.

19 Now, many have asked why we didn't
20 just study the bottom 25 that industry has
21 been very direct in their calls for, but we
22 felt it was critical to take an approach that

1 would set a long-term direction for the
2 government that did not cut the government
3 systems into parts or limit their
4 capabilities.

5 The agencies had previously
6 yielded 1710-1755 MHz and eliminating another
7 25 MHz would potentially impact government
8 operations. The satellite operations in the
9 band could not be altered to eliminate any
10 operations below 1780 and redesign of all the
11 equipment to operate, potentially, more
12 efficiently in the top 70 MHz would require a
13 significant cost, and if the band would
14 ultimately be needed for wireless broadband,
15 as we predicted, they would then require
16 redesign a subsequent time.

17 The government sets up its
18 programs to live for the long term, and while
19 they try to respond to current needs and under
20 current funding constructs, they can't respond
21 merely to market changes.

22 Given the industry insistence that

1 they wanted spectrum and were looking for
2 spectrum below 3 GHz, this band, 1755-1850,
3 represented the last major piece that we had
4 where relocation or redesign of major radar or
5 radio navigation systems would not be
6 involved.

7 We also recognize that it would be
8 very difficult to get to 500 MHz in ten years
9 by doing it 25 MHz at a time. So we took a
10 big shot here; took a significant step. Now,
11 we did our review and found that there were
12 over 3100 assignments to at least eight
13 distinct applications and a few other cats and
14 dogs.

15 Most of these have operations
16 across the entire band. Most of them operate
17 on an intermittent basis, but when they
18 operate, they have to be able to work. Many
19 of these, such as the UAVs, or precision-
20 guided munitions, air combat training systems,
21 and telemetry, are airborne.

22 You'll never see, on the

1 commercial side, a combination of such diverse
2 operations and while some thought to judge
3 these as being inefficient, they just don't
4 fit in the normal boxes that produce what we
5 classically think of as efficient spectrum
6 use.

7 In those cases, we primarily see
8 homogenous operations, and in many cases,
9 single point of control. One company, for
10 instance, having a portion of spectrum. In
11 this case, the government uses were
12 significantly different, the characteristics
13 varied from one to another, there were many
14 different agencies operating in the band, some
15 of the operations were low power, some of them
16 were high power, none of them had exclusive
17 access to anything.

18 In every case, the government was
19 sharing among the government agencies. So we
20 really had a complicated situation to unravel.
21 And during that review, we solicited and
22 suggested alternative comparable bands because

1 if the government's going to relocate its
2 systems, they have to have places to go.

3 In some cases, that may be other
4 federal bands, but in other cases, it may be
5 non-federal bands or shared bands. And these
6 are not simple systems to live with. When you
7 add in mobile, when you add in aeronautical,
8 you add in other complications.

9 In some cases, for instances,
10 microwaves, we knew where we could move them.
11 They're relatively easy to move. In other
12 cases, though, with, particularly, the
13 airborne systems, the challenges are far
14 greater.

15 For instance, in a satellite
16 control band where the emissions are an uplink
17 to the satellite, the airborne transmitter
18 doesn't represent a significant interference
19 impact into the satellite receiver.

20 On the other hand, if you try to
21 move them to a band with satellite operations
22 where we've got satellite receivers on the

1 ground looking out into deep space, an
2 airborne emitter flying overhead can
3 completely eliminate the ability of those
4 receivers to pick up their signals.

5 So we had a tremendous, you know,
6 very different components of this to analyze.
7 The agencies then sought cost information from
8 their programs to look at moving into these
9 comparable bands and engaged OMB as
10 appropriate to link their costs to moving to
11 other bands.

12 Now, by the report date, that
13 infamous October 1st of last year when you
14 were anxiously looking for my outcome, we had
15 what I've been describing as an interesting
16 conundrum.

17 The agencies had said that they
18 could move almost all of their systems out of
19 the band in ten years. Only the satellite
20 uplinks and the electronic warfare training
21 would have to remain. The ten years would
22 give them the opportunity to start new

1 projects, redesign and build new systems, and
2 supporting infrastructure.

3 Of course, they would have to
4 continue to operate while they were converting
5 and the transition periods were likely to be
6 long. Now, we've cleared systems before from
7 the 1710-1755 MHz band in five years, but
8 those were mostly microwave systems.

9 The transition for air combat or
10 telemetry UAVs would certainly be longer and
11 the initial price tag reflected in the report
12 is about \$18 billion. Also, the band of
13 greatest interest to DoD was the 2025-2110 MHz
14 band used by government satellite uplinks and
15 electronic news gathering.

16 So to move our federal systems
17 into there, potentially, ends up involving
18 another rulemaking; another activity. Still,
19 the report clearly says that relocation is
20 possible.

21 However, as we looked at the
22 situation, the cost, the transition time, and

1 so on, we began to think that there's got to
2 be a better way to deal with this opportunity;
3 to provide opportunities for industry, to
4 minimize government movement, and ultimately,
5 to keep the relocation costs down.

6 And to determine that, the
7 government can hold the necessary discussions
8 by themselves. We can't do this in a closed
9 room. And as Assistant Secretary Strickling
10 has said, the days of vacating spectrum are
11 coming to a close.

12 While new spectrum may not offer a
13 100 percent access if its shared, it offers
14 significant increased access. So we can't
15 expect the government to go off in a closed
16 room to come up with a complete answer by
17 themselves, we need to work this to closure
18 with government and industry together.

19 We have to set aside, kind of, our
20 canned bullet points, and sound bites, and so
21 on, and actually roll up our sleeves, industry
22 and government together, to see what we need

1 to understand about the situation to find out
2 what industry, potentially, can live with in
3 terms of government transitions or ongoing
4 operations.

5 And ultimately, to bring about an
6 understanding of how we can work together, how
7 we can best share the spectrum, how we can
8 facilitate transitions that are necessary so
9 that we all get the greatest benefit out of
10 them.

11 So that's my summary of the
12 report. Happy to take any questions on that,
13 but that brings us to the point of the meeting
14 today.

15 CHAIR FONTES: Any questions for
16 Karl?

17 MR. NEBBIA: It was a good read
18 wasn't it? Okay. So we're going to move on
19 to my presentation on where we would like to
20 go at this point. And in considering how we
21 might be able to bring government and industry
22 together, it was important for us to provide

1 a framework where people could work on
2 technical issues, where they could dialogue
3 back and forth, where they could breakout the
4 parts of the work into more workable pieces,
5 bite-size pieces, and then to come to some
6 result that we could ultimately use in our
7 ongoing dialogue with the commission regarding
8 the re-purposing of the spectrum.

9 So what we're looking to do here
10 is to create a number of working groups, five,
11 at this point, total, and all this is captured
12 in the framework document that you have before
13 you. So we'd like to create five working
14 groups to consider ways to facilitate the
15 implementation of commercial wireless
16 broadband in the 1695-1710, that's one of the
17 working groups, and then four separate working
18 groups in 1755-1850.

19 We would then take the outcomes of
20 the working groups that would be then
21 submitted through the CSMAC for your review
22 and ultimately, for recommendation on to NTIA

1 in our ongoing work with the commission to re-
2 purpose the spectrum.

3 So we're planning to break it out
4 in those working groups. The structure for
5 the working groups is such that we actually
6 need a CSMAC participant in each group. Our
7 preference, at this point, is for that
8 designated person to act as a liaison with the
9 main body so that the main body and the co-
10 chairs can be kept informed of what's taking
11 place.

12 In doing that, one of the things
13 that we've seen in setting up this structure,
14 we've seen that the 500 MHZ existing
15 subcommittee and the sharing subcommittee,
16 essentially, have a lot of work in common with
17 this activity.

18 And therefore, at this point, our
19 choice is to stand those down for a period of
20 time while this work is directly going on so
21 that we can focus on this specific activity
22 and come out with our results as quickly as

1 possible.

2 So we would then, in addition to
3 having the liaison from the CSMAC, certainly
4 like to invite all of you to participate in
5 the working groups if you so choose. Now, we
6 understand that some of the backgrounds of
7 CSMAC members don't link directly to some of
8 the technical discussions that will have to go
9 on, but we certainly want you to be assured
10 that you're invited to participate.

11 We would love to have you
12 participate in the group, but we recognize
13 that you may not have the specific technical
14 background to work in some of the discussions.
15 So we would have this liaison, we would have
16 other CSMAC participants who would like to
17 join each of the working groups.

18 NTIA will provide a
19 representative, or more representatives, in
20 each of the working groups. The FCC has
21 already committed a name, or more than one
22 name, to each of the working groups, and then

1 we will setup the groups to be co-chaired by
2 an industry representative and a government
3 representative.

4 We've begun getting the names of
5 the government representatives thus far. We
6 will -- in providing our invitations to people
7 to participate in the groups, we will then be
8 soliciting people to take on the industry co-
9 chair role.

10 So in the very near future --
11 well, let me go back to what we would like
12 from you today so you can even be thinking
13 about it as I continue to talk a little
14 longer. And that is, we would like to know
15 whether you would be willing to be one of the
16 CSMAC liaisons in any of these particular
17 groups.

18 So we'll look for as many answers
19 as we can get today, but obviously, this may
20 be a new idea, and therefore, we'd be happy to
21 give you a few days to consider that. Yes,
22 Mr. Rush.

1 MEMBER RUSH: Charlie Rush here.

2 One very obvious question in my mind is, if
3 we're to undertake a detailed analysis of the
4 potential for sharing, it would make sense
5 that we're going to have to do some sharing
6 analyses. Who, in your mind, is going to be
7 responsible for doing that?

8 Is NTIA going to do it? Is the
9 Federal Government going to do it based on
10 recommendations or concepts put forward by the
11 CSMAC and other representatives or is it
12 something that you're going to expect the, I
13 say you should do this, then you're going to
14 turn around and we'll try to go ahead and do
15 it; we'll reach a result? Thank you.

16 MR. NEBBIA: We're certainly
17 looking for a cooperative effort between all
18 of the participants in the group. We will be
19 using, as the beginning point, the reports
20 that we've drafted, or written. So, for
21 instance, the fast track report captures
22 information about the weather satellite uses

1 in the 1695-1710.

2 There is an analysis associated
3 with that report. The 1755-1850 report,
4 obviously, have different components and each
5 one of them may have to be analyzed. So as we
6 break these out, we have, in fact, broken them
7 into these separate groups, and I think the
8 analysis required of each will be different,
9 depending on the application that we have.

10 Now, the framework document that
11 we have written shows the breakout of what we
12 are going to look at. For instance, in
13 Working Group 1, we're talking about the
14 weather satellite receivers. The fast track
15 report recommended that a number of them be
16 protected using exclusion areas.

17 Those exclusion areas were
18 determined based on an analysis using an
19 understood commercial environment. One of the
20 questions that we have that this group will
21 need to look at is whether we accurately
22 reflected the commercial environment in that

1 analysis, and that if we're able to improve
2 upon that, we might actually be able to draw
3 in exclusion areas or come up with other
4 approaches.

5 Each of them will have to have
6 that type of, kind of, direct discussion on
7 the issues related to each one. But let me
8 just finish a little bit on the work processes
9 and then we can talk about the specific
10 groups.

11 So we're looking to have co-chairs
12 from government and industry. We will be
13 soliciting the participants over the next week
14 or so. We have been provided recommended
15 lists from various industry organizations to
16 help us in trying to identify the right kind
17 of people.

18 Once again, we're looking for
19 people who can work with us performing
20 interference analysis; talk about the
21 technical capabilities of the systems that
22 they operate. We recognize that, for

1 instance, in the case of industry, we're
2 probably talking about many of the same people
3 across all of the working groups, since the
4 uses will be the same across the working
5 groups.

6 On the other hand, from the
7 government side, the uses differ greatly,
8 depending on the working group. So we would
9 foresee there being different government
10 people, probably, involved in each of those
11 activities.

12 So the work, as we get people
13 together, is going to require a significant
14 amount of cooperation. We feel like, as an
15 example, that we've had the 5 GHz Wi-Fi work
16 that was done in the past where industry and
17 government, the commission, and others, got
18 together and worked through technical issues.

19 They worked through how they were
20 going to analyze problems, model problems, and
21 so on, and came out with solutions that were
22 workable.

1 We see that as a model for groups
2 being able to come together, provide a
3 specific outcome that meets the need of the
4 particular application they have, and then
5 provide a recommendation that, ultimately,
6 worked into the international community in
7 that case, but ultimately, NTIA and the FCC
8 were able then to use outcomes of that work in
9 our own interaction and dialogue.

10 So we think that's been a good
11 example in the past of government and
12 industry, on a working basis, pulling
13 together.

14 But in that cooperative effort,
15 we're looking for the co-chairs, basically, to
16 schedule the meetings, determine where they're
17 going to be. We will help them put together
18 the contact list of people we ultimately
19 invite.

20 We, at the same time, will put out
21 Bruce Washington's name on our Web site so
22 that if someone else would like to volunteer

1 to participate representing an industry group
2 or a company, we would certainly be interested
3 in their participation.

4 So we're going to make an avenue
5 for that to occur. Yes, Kevin. Sorry.

6 MEMBER KAHN: So if we want to
7 suggest other people from our own company into
8 this process, is it best to simply go to that
9 external process or should we route it
10 internally, somehow, through you?

11 MR. NEBBIA: Your way would work
12 fine for us, but if you want, Bruce is pulling
13 in, certainly, other names, but, you know, if
14 you called me one day and said, I got a person
15 to suggest, I certainly would be happy to take
16 the suggestion. Yes, ma'am.

17 MEMBER WARREN: Sorry. Jennifer
18 Warren.

19 MR. NEBBIA: Can we pull the
20 microphone over closer to her?

21 MEMBER WARREN: If also, we have
22 members who have different technology that

1 fall into different groups, would you be
2 interested in people covering those different
3 areas? So if we have engineers that develop
4 different systems that might be in the five
5 different working groups --

6 MR. NEBBIA: Right.

7 MEMBER WARREN: -- you're
8 interested in that kind of expertise spread
9 out? Okay.

10 MR. NEBBIA: And in fact,
11 numerically, the groups we're looking to be
12 represented is we certainly believe that the
13 service providers need to be involved. Some
14 of them may have, you know, major interest,
15 some of them may have rural interest, so we
16 want to get a mix of service providers.

17 On the other hand, the technical
18 expertise that the technology builders have is
19 absolutely critical to the discussion, so
20 we're going to be looking for participants
21 from the community that's building the
22 devices, because they often, you know,

1 understand the immediate impact of certain
2 types of signals with the devices that they've
3 built.

4 We're also interested in people
5 representing companies that build the
6 government systems so that when we have the
7 discussion, sometimes on the government side,
8 we're managing programs in our direct
9 familiarity with all the details and so on,
10 we'll still need people that represent those
11 technologies.

12 So we're going to put our net
13 fairly wide here to try to draw in as broad a
14 range of people as possible. Nonetheless, we
15 are looking for the discussions to move
16 forward at a fairly rapid pace, so we'll be
17 making those initial invitations, in addition
18 to names that may come in to Bruce, within the
19 next week or so.

20 As part of that process, we will
21 be firming up who would be willing to act as
22 a co-chair of the group, and in that same

1 time, if we could conclude on who from CSMAC
2 wants to participate directly in the groups.
3 But then as the groups begin their work,
4 they're going to have to identify what the
5 critical issues are within each of the
6 application areas.

7 This will be somewhat similar to
8 our trying to identify specific questions
9 within the CSMAC and that approach that we've
10 taken. For instance, within the weather
11 satellite band, we know one of the critical
12 aspects here is the issue of the exclusion
13 areas, the size of the exclusion areas, maybe
14 even the location of some of those exclusion
15 areas, and we will need to pursue that further
16 in the dialogue.

17 Ed Drocella, from our office, will
18 be participating in that. Ed's got a long
19 history in this work and I'm sure will be able
20 to propel the discussion forward.

21 The next working group we're going
22 to form will deal with the law enforcement

1 surveillance, electronic ordinance disposal,
2 and some other short-distance links.

3 And this, we'll be looking for a
4 co-chair on the government side, and I should
5 have mentioned in the last case, we'll be
6 looking for a co-chair on the government side
7 from commerce, NOAA, and Yvonne Navarro has
8 been recommended for that.

9 On the law enforcement
10 surveillance side, DHS and Justice, we're
11 looking for a name from them, and have
12 received one thus far. We just need to work
13 that out. On NTIA's side, we've got Rich
14 Orsulak and Scott Jackson, both come from a
15 long history in public safety-type operations.

16 But the focus of the work here is
17 going to be quite different. In this case,
18 based on our past experience with 1710-1755,
19 we recognize that low-power law enforcement
20 surveillance systems sharing with ubiquitous
21 newly-implemented commercial wireless is an
22 issue.

1 And therefore, that represented
2 the biggest hurdle I think we had in the
3 relocation of the 1710-1755 band. It will
4 represent a similar hurdle in this band. They
5 operate across the entire band. The systems
6 that they have, for the most part, are very
7 wide bandwidth receivers, and therefore, you
8 know, one signal might impact several
9 operations.

10 Also, they have a nationwide
11 authorization to go where they need to go and
12 when they need to go, so this is really a
13 challenging issue. We know that they're not
14 compatible.

15 So in this case, what we're
16 essentially asking the group to begin to look
17 at is, what is the nature of the transition
18 that the government might plan to pull out of
19 the band? Now, the federal law enforcement-
20 type agencies have actually laid out, in our
21 report, a three-step process for them, and
22 that's one of the reasons why their costs are

1 predicted to be fairly high.

2 The first move is to get out of
3 the 1755-1780 band within the five-year period
4 and to go to a digital technology; continue
5 operating in the rest of the band. The
6 possibility exists that at a later date, they
7 could squeeze to a smaller number of megahertz
8 by improving their digital capability at that
9 point.

10 And ultimately, potentially, move
11 out of the band altogether, if, in fact, they
12 can find another band that they can move to.

13 So in this case, the essential
14 question, I believe, is going to be, what's
15 the transition plan for them moving out? Now,
16 what that means to them is they move out,
17 basically, cities at a time, at least that's
18 how it occurred the last time, so they may
19 want to move out of New York on a set date,
20 San Francisco another date, and so on.

21 The critical thing is for us to be
22 able to align, as much as possible, the

1 interests of industry in moving in with the
2 interest of the government in moving out. And
3 the government showed, in the past, that they
4 were willing to reorder their plans if they
5 knew what the requirements were.

6 But, of course, getting into the
7 process and then finding somebody needed San
8 Francisco today and San Francisco was, like,
9 25th on the list, and we've talked about the
10 NFL cities, I guess that's a common term in
11 industry.

12 They are where the major bands
13 are, so we need to go beyond recognizing which
14 are the major NFL cities and what the actual
15 order of desire might be. So we're going to
16 have to talk about what industry's willing to
17 discuss, what government's willing, and try to
18 match up that order. So that's, in that
19 particular case, what we're looking at.

20 As we move on to the satellite
21 control and electronic warfare, the critical
22 aspects here are, obviously, the satellites

1 are not moving within a near time frame. So
2 the satellite control links and those
3 locations around the country have got to be
4 protected through some sort of mechanism.

5 Interestingly enough, the
6 interference problem, however, is into
7 industry in this case. So we've got to come
8 up with a construct that will allow us to use
9 as much as that space as possible with the
10 assurances that it's not going to bite the
11 government when and if the signal gets some
12 sort of interference.

13 So that's going to be the critical
14 portion in this case is, the regulatory
15 construct that we come up with that makes
16 everybody feel that this is workable.

17 On the electronic warfare side,
18 some of you don't know, you know, too much
19 about why is this important, but obviously, if
20 you read the papers it's clear every day that
21 the bad guys set off systems, devices, using
22 current technology; cell phones.

1 So it's important that DoD have
2 the ability to test, to train, and this is a
3 band that offers them commercial technology
4 and a band, right now, that they have access
5 to. So if we're going to provide the access
6 to the commercial community, DoD has got to
7 have guarantees that they can train as they
8 need to train.

9 And that's going to be, once
10 again, a regulatory construct that provides
11 them what they need. Tactical Radio Relay and
12 Fixed Microwave, okay, we're already very
13 familiar with the Fixed Microwave. Gary
14 Patrick, who shepherded our 1710-1755
15 relocation, will be involved in this.

16 So we have lots of experience with
17 the Fixed Microwave. The Tactical Radio Relay
18 has some different issues to it, but also, in
19 that case, we do have some experience in
20 industry and government coming together and
21 working out arrangements that allow for the
22 exclusion areas around the three permanent

1 sites to be narrowed, in reality, on the
2 ground, and so on.

3 So we see some hope there in the
4 protection areas not being as great as we
5 might have defined in the past. We're also
6 excited about the possibility that the
7 government, military particularly, may be
8 moving toward more commercial-type
9 technologies.

10 And any way we can provide DoD
11 with training opportunities where the
12 connection between the wireless industry and
13 their operations begins to become somewhat
14 seamless, giving opportunities for both, then
15 maybe we should pursue those.

16 The biggest challenge, of course,
17 is going to be the airborne operations, and
18 therefore, we stole John Hunter from DoD after
19 they stole him from T-Mobile, and we're glad
20 to have John onboard to work in this area.

21 We also want to note that there
22 has been an STA request put in by T-Mobile,

1 working together with CTIA, to do some
2 measurements and testing in the band that
3 might help them identify what the implications
4 are of these airborne operations.

5 So that work is going to depend a
6 great deal, I think, on what they see when
7 they do those measurements. Some of that may
8 be pure monitoring, some of it may be actual
9 testing with the government operations.

10 Ultimately, we are shooting for
11 trying to wrap these issues up, primarily, for
12 most of them, in January of next year. The
13 reason for that is, if we're going to be ready
14 to have a portion of this spectrum available
15 for the commission to work together with the
16 2155-2180, we've got to have that ready at
17 that point.

18 So in these discussions, we see
19 them talking about the entire band, but also
20 considering how the lower band may be able to
21 be made available earlier. If you look in our
22 report, you will note a number of agencies

1 saying that they could vacate the lower
2 portion earlier, but only as a part of a
3 longer term plan.

4 So we think there may be some
5 great potential there, but nonetheless, as we
6 make the spectrum available, in these
7 transitions and in these sharing modes, the
8 distinctions of when certain portions get
9 auctioned and others, you know, happen later,
10 that may become a little less distinct, and
11 certainly may not require different actions
12 from the government.

13 If we can come out with a way of
14 sharing across the band, then maybe we can
15 auction 1755, 1710, right away, but the next
16 access in the other bands is essentially the
17 same type of shared access. That's a
18 possibility.

19 Okay. We know it's your fault
20 now. Yes. It's just my booming voice. So on
21 the other hand, we believe that the weather
22 satellite band, 1695-1710, we would hope, can

1 be done in a much shorter period of time.

2 We think that the issues there are
3 much more limited in terms of seeing if we can
4 improve those coordination areas, or exclusion
5 areas, excuse me, so in that case, we're
6 hoping for an earlier date in September to
7 complete that work.

8 So that's kind of the order of
9 march. In fact, that band is likely to be the
10 one we try to kick off as quickly as possible.
11 Sorry. We're getting more. And any mics that
12 are still pointing at me or something. Okay.

13 Anyway, that's the time frame
14 we're looking for. We would envision each of
15 the working groups coming back with a report,
16 or reports, possibly more, if there are pieces
17 that they can identify along the way. Each of
18 those reports would come back through the
19 CSMAC for your consideration.

20 And ultimately, you would then
21 recommend what gets sent on to NTIA. Now, I
22 should say, in doing that, because we're

1 looking for a cooperative environment and
2 outcomes that meet both the commercial needs
3 and the government needs, we are looking for
4 outputs that represent a consensus outcome.

5 So as people are working together,
6 we need to continue to keep ourselves in the
7 same room until we work through whatever
8 hurdles and difficulties we find. So our goal
9 is that these groups would submit, up to
10 CSMAC, agreed outcomes, not ones that have
11 lots of loose ends and things we couldn't
12 resolve.

13 We need to work toward agreed
14 outcomes so that, ultimately, we can work with
15 a commission to put forward a clear path for
16 re-purposing the band. So thank you. Any
17 questions? The questions today and the
18 interaction is limited to the actual members
19 of the CSMAC, so we've got to stick with that.
20 That's the agenda today. So, yes, sir?

21 MEMBER TRAMONT: Bryan Tramont, so
22 we have a July meeting already slated, and

1 probably another, like, a September and then
2 a January, and have, sort of, iterative
3 presentations from each of the working groups
4 at those three meetings, with potential, some
5 final reports in September and others in
6 January? Is that the lineup?

7 MR. NEBBIA: That's certainly my
8 hope, yes.

9 MEMBER GIBSON: Mark Gibson. You
10 mentioned that two of the existing working
11 groups will go into stasis, but what about the
12 others? Are you expecting reports from the,
13 what is my working group, Spectrum Management
14 Improvements on License?

15 CHAIR FONTES: At the end of this
16 there are, I believe, a couple of additional
17 products that are going to be produced.

18 MEMBER GIBSON: Okay. One other
19 question related to the work plan, in the
20 framework, you mentioned issues with
21 classified data, would those be surfaced in
22 the ongoing discussions or do you want to

1 service them at some point beforehand?

2 MR. NEBBIA: Yes. I think they
3 are going to get surfaced as the discussions
4 go on. My experience thus far is that
5 classified information, generally, does not
6 have to be brought into the mix here. We may
7 find that that's not the case, but generally,
8 I think that that is the case.

9 So I'm hopeful that we will not
10 have to have that kind of direct classified
11 discussion, however, if we do, then we'll have
12 to resolve among the participants there,
13 issues regarding clearances, and where we have
14 those discussions, and what the nature of them
15 be.

16 I mean, we foresee there being
17 some interest and concerns on the commercial
18 side about some of their plans and so on, and,
19 you know, we recognize that, and we will have
20 to work with the information that people can
21 provide to us.

22 I think on the government's side,

1 your bigger challenge will be in information
2 that the government agencies consider to be
3 sensitive in some way. And, once again, I
4 think in that case, we're going to have to
5 look closely at what that is.

6 A great example right now is
7 information regarding the law enforcement
8 surveillance bandwidth was not made available
9 before the 1710-1755 auction. It's now based
10 on the fun that we've had the first year or so
11 after the auction. It's, you know, certainly
12 well-known at this point.

13 So there's some aspects like that,
14 we would not expect some of the same
15 sensitivity that we might have had before, but
16 we'll have to look at those things. We also
17 recognize that, at least with some of the
18 system characteristics, it doesn't take that
19 much for someone to go out and, you know, do
20 spectrum monitoring and pick up the
21 characteristics of the system.

22 So, you know, that's something

1 we'll have to work through, but I think we can
2 probably avoid classified discussions, more
3 sensitive, we may have to have that
4 conversation and decide what both the agencies
5 and the commercial side are comfortable with.

6 And, once again, I think, for me,
7 a critical component here is just the
8 cooperative environment where people are able
9 to discuss these things and to say, well, I'm
10 not free to talk about that, but let's go back
11 and see how we might be able to approach that;
12 that sort of thing.

13 I think the discussions from the
14 groups really need to stay in those groups;
15 working through the issues. We can't, once
16 again, start fighting each other out in public
17 when we're actually trying to carry out these
18 conversations.

19 Yes, there's no lawyers rule.

20 Okay.

21 CHAIR FONTES: Karl?

22 MEMBER POVELITES: I'm glad to see

1 this work effort start and really happy to see
2 that we're looking at relocation in addition
3 to sharing. I was wondering if, as part of
4 the review, you were also going to look at
5 some of the cost estimates that were provided
6 and determine how accurate or inaccurate those
7 may be?

8 MR. NEBBIA: Ultimately, the
9 firming up of cost estimates is part of a
10 formal process under the CSEA that we went
11 through in the last go around. And you can
12 look back on the history there and you'll
13 find, for instance, that in about 2001, we
14 gave estimates, somewhere, about \$900 million,
15 and that actually, the outcome today is closer
16 to \$1-1/2 billion.

17 So the numbers have actually come
18 up since that point, but nonetheless, coming
19 up with initial estimates is just that and we
20 will be working through that process as we get
21 closer to the decision point and as we get
22 into the CSEA process.

1 But I don't foresee these working
2 groups working on a changing of the numbers.
3 We're working on, how can we work through the
4 transition? How can we live in environments
5 where we're both there?

6 I mean, ultimately, and this gets
7 back to this question of relocation versus
8 sharing, if you have to share with somebody
9 for ten years, and that process works, then we
10 have to ask why would we spend the money then
11 to move them?

12 So I think all those things fit in
13 to the discussion. We realize, as Tom said,
14 we'd all rather have our own tents, but the
15 military issued me a shelter half many years
16 ago and told me that I was going to have to
17 bunk with a really mean looking Sergeant and
18 I, somehow, managed to do that.

19 CHAIR FONTES: Charles.

20 MEMBER RUSH: Thank you. Charles
21 Rush. I have a couple questions that are
22 probably getting into the details and you may

1 not want to, you know, address them here, but
2 I think they may be worthwhile, at least,
3 giving some thought to.

4 We have five different groups and
5 four of them are working in the same frequency
6 range, how do we assure that we're looking at
7 uniform characteristics of the commercial
8 deployment?

9 You know, I think it's necessary
10 that that not become an issue, that we all
11 agree, somewhere, early in the process, if we
12 can today, what it is that we envision in
13 terms of the future deployment of whatever you
14 want to call the mobile environment at this
15 point in time, that would be applicable for
16 these bands.

17 And I think that, you know, that
18 might not be something that is just simple, so
19 we need to get some mechanism established to
20 get that going, I think, sooner than later.

21 MR. NEBBIA: That's an excellent
22 question, Charlie, and as we indicated at

1 1695, we did an estimate working with the
2 commission on what the environment might look
3 like, but we think that estimate can probably
4 be improved.

5 And also, we'll certainly be
6 expecting that as we meet together with people
7 from the equipment manufacturers, from the
8 service providers, my expectation is that they
9 would be, you know, going back and huddling
10 themselves as to how to best present that
11 environment.

12 So we would certainly hope that
13 they can come together and provide us with a
14 good sense of what that will be.

15 CHAIR FONTES: Janice.

16 MEMBER OBUCHOWSKI: I'd like to
17 associate myself and partner with Charlie's
18 observation and tie it to, I think, a somewhat
19 thorny question. So we all operate in good
20 faith, we have an assumed set of parameters
21 for the commercial partners in the band, we
22 come up with some reasonable sharing

1 approaches, what is the guarantee that when
2 the FCC takes up its commercial band param
3 we're sharing, that it's implying the same
4 architecture?

5 Because you don't have to be an
6 engineer, I am not, to notice that there's a
7 really substantial difference of opinion
8 between the PCAST study and a carrier
9 perspective, upon which typical auction
10 revenues, historically, have been based.

11 So you have two different world
12 views and I don't think the FCC has signaled
13 yet which path it intends to go down and I
14 don't think Congress has either. It raises a
15 tough question for this process.

16 MR. NEBBIA: Well, I mean, we're
17 certainly looking in these two particular
18 bands for how they might be made available for
19 commercial wireless, and that's our focus
20 here.

21 We do understand that one of the
22 hidden recommendations from PCAST is moving

1 the commission over on to NTIA's
2 responsibility, but nobody's read that far
3 into the report yet. But we see the
4 commission working actively and participating
5 actively in these groups.

6 And I think we have at least the
7 history of cooperating over the 5 GHz Wi-Fi
8 issue to come out with agreed upon outcomes,
9 and that's certainly our goal. Mike.

10 MEMBER CALABRESE: Something to
11 add to Charlie's question is under the, you
12 know, increasingly we see, even among, I
13 think, some of the carriers, you know, very
14 recently, much more of a move towards
15 microcells, small cells, lower power.

16 So is that scenario, is there room
17 to address that in the alternative? Because
18 it could well be that, if you look at sharing,
19 that that's a much more efficient way to
20 accommodate the continued operation of the
21 federal primaries.

22 And if we only look at this at a

1 very high power, like the original fast track
2 report, I think, only looked at high power,
3 you know, you might miss a lot of important
4 policy insight into, you know, what sort of
5 use of the band is most efficient.

6 MR. NEBBIA: Well, I think we
7 certainly see lots of possibilities here.
8 We'll be looking for industry to represent
9 those possibilities as opposed to us trying to
10 put a construct over it. So we'll be looking
11 for them to come in, they have a sense of what
12 their financial base is, and so on.

13 And so they may find that
14 solutions for specific operations are smaller
15 cells and they'll have to consider that, but
16 we're not looking to put that kind of, you
17 know, direction into it. We're looking for
18 their input and feedback. Yes, ma'am.

19 MEMBER WARREN: Jennifer Warren.
20 I just want to continue the thread that's
21 begun here because I appreciate what you're
22 saying about you won't be directing it, NTIA

1 won't be directing it, but it does seem to go
2 back to the original question that there needs
3 to be a common input to all the different
4 working groups, and that that is the, you
5 know, precursor to, then, those discussions in
6 each of the working groups, so that they're
7 all working on the same, almost the same,
8 band, so the same approach.

9 So where is the working groups
10 that's going to have the industry all come
11 together and what they want the working groups
12 to look at? I mean, how does that get
13 formulated and do you have a time frame by
14 which you want that input to be ready for
15 these working groups to get started?

16 Because I don't think you can have
17 -- it could be somewhat inefficient to have it
18 being done, you know, in all four working
19 groups and then the product might not be the
20 same.

21 So perhaps there could be a
22 starting point where that product is put in

1 for distribution to the co-chairs and those
2 individual working groups.

3 CHAIR FONTES: A whole series of
4 questions.

5 MEMBER WARREN: Sorry.

6 MR. NEBBIA: You know, let me just
7 --

8 MEMBER POVELITES: It's all a
9 slice as part of this search for 500, that
10 group, working group, there was some technical
11 characteristics put into that. The suggestion
12 may be that that would be a baseline and then
13 the working groups could then look at that and
14 see if it needs to be modified based on other
15 things, such as what Mike was saying with the
16 small cells.

17 MR. NEBBIA: Yes, sir.

18 MEMBER TRAMONT: You're probably
19 going to say what I'm going -- this is Brian
20 Tramont, I would just say that, obviously it's
21 important when you're naming the people to
22 each of the groups that we have representative

1 samples across all different commercial models
2 so that each can calibrate.

3 I agree with you, Jennifer, I
4 think it'll be important that the commercial
5 entities across all five working groups talk
6 to each other. I'm just not sure that adding
7 another layer of having a common set of
8 agreements from the commercial side before you
9 go into the five working groups is achievable.

10 So I think it's more important
11 that you just have consistent representation
12 across all five with good communication across
13 the industry sectors in all five so that the
14 commercial folks bring to the table the same
15 set of assumptions, because the problem is,
16 you're not going to have it, right?

17 The individual CMRS providers are
18 going to have different models. Individual
19 unlicensed providers will have different
20 models than manufacturers. You're not going
21 to have a completely uniform approach.

22 MEMBER KAHN: Kevin Kahn.

1 Realistically, there's not a whole lot of
2 different standards being pushed right now.
3 I mean, there's been enough coalescence around
4 standards directions that I think, you know,
5 while we can hypothesize anything, there's
6 really, you know, only a couple, and they're
7 not much different from one another, the ones
8 that are actually in development.

9 And the standards roadmaps go out,
10 you know, easily, into the ten-year time
11 frame. So while, you know, I'm sensitive to
12 the theoretical question here, in a practical
13 sense, the systems that are going to be built,
14 for commercial use at least, are going to
15 conform to wherever those standards are
16 headed.

17 And I think, you know, we ought to
18 just assume, and maybe explicitly state that,
19 what we're looking at our systems that appear
20 to be, you know, in the general conformance
21 with where those standards bodies seem to be
22 head, because it's not a big guess.

1 I mean, you know, there's drafts,
2 there's everything for those things. And,
3 yes, you can argue around the corners and
4 they'll be, like any standards group, you
5 know, tons of arguments around the corners of
6 those standards, but the dominant thrust of
7 those standards are not going to, you know,
8 suddenly take a hard-right turn somewhere.

9 So, you know, I think this may be
10 a little less of an issue than it could be.

11 MEMBER RUSH: I tend to agree with
12 what Michael said and with what Jennifer said,
13 and I'm sorry Brian, I have to disagree with
14 you because I think that if everybody comes in
15 with their own little nuance, what we're going
16 to have is a very, very dissected viewpoint
17 of, you know, what the shared environment is
18 going to be.

19 And, you know, I think we need to
20 avoid that. I'm going to do something that I
21 said 15 years ago that if I did I would know
22 it's time to leave, so I'm just probably going

1 to leave. I remember when I was working for
2 the FCC in the year 2000 and I sat down with
3 Diane Cornell and I said, we need to come up
4 with a set of parameters to do some studies
5 for this thing called INT2000, and how can we
6 get that?

7 And what the FCC at that point in
8 time did was, they asked all the industry
9 people to come in, and to provide their list
10 of parameters, and the values associated with
11 that parameter that would be needed for
12 sharing studies.

13 And we put the caveat to them
14 that, if you can't do it, we will do it for
15 you, and we will do the studies for you, and
16 you probably don't want that. And that led to
17 a major effort on the part of the industry to
18 then CTIA, or whatever it was called at that
19 time, and that's what gave birth to the
20 documentation that's in the ITU-R now for the
21 parameters for INT2000.

22 The ITU-R is going to go through

1 the same process for INT Advance, but we can't
2 wait for them to get that done. I really
3 think that we do need to have an agreement on
4 the kinds of parameters that are needed and
5 the concept, how these systems are going to be
6 deployed, because Michael was absolutely
7 correct, you've moved away from the notion of
8 you have macrocells, you have microcells, and
9 picocells, all separating.

10 You now have picocells embedded
11 within the macrocells, and you have relay
12 modes, and you have femtocells, all of that
13 means that the concept of having maximum
14 power, and that's what you do your worst-case
15 simulations on, has become those are worst-
16 case, impossible, totally unrealistic
17 simulations.

18 We have to make the effort to take
19 the step to be able to, as best we can,
20 simulate what it is that the actual deployment
21 is going to be, at least on the commercial
22 side, and the gentleman from Intel is exactly

1 correct, there's only so many standards that
2 are out there, that we're talking about, from
3 the commercial side.

4 And it's, basically, the LTE
5 family. And that's not all that difficult to
6 be able to come to some sort of coalescence on
7 that and, you know, that particular approach.
8 And I would be glad to work on that particular
9 issue, but not by myself.

10 MR. NEBBIA: Well, once again, I
11 think, obviously, there does need to be a
12 coming together on the industry side as to
13 what represents that. We would certainly have
14 to have, I think, another discussion here
15 whether we would intentionally setup a group
16 to specifically do that.

17 In a couple of the cases that
18 we're dealing with, for instance, the
19 satellite operations and the electronic
20 warfare, we're, you know, coming up with -- I
21 mean, we've got government operations that we
22 know about. I don't think it's a matter of

1 the construct of the commercial operation, so
2 very potentially, they could start working on
3 their regulatory construct without spending
4 the time.

5 On the airborne stuff, a big part
6 of the starting will be performing
7 measurements and identifying how often the
8 devices operate, what they look like, because,
9 once again, there's concerns into industry,
10 but as we start approaching how we would
11 protect government operations, we'll need to
12 understand that information better than we do
13 today.

14 And it should be as consistent as
15 possible across the various discussions. At
16 the same time, I'm aware that, for instance,
17 in industry's coordination with the tactical
18 radio relay on the government side, those
19 types of initial calculations produced fairly
20 large areas.

21 And it's not till you get past
22 that that you actually get to where the

1 solutions are. So those things tend to
2 provide an initial baseline for the
3 discussions, but ultimately, companies have
4 tailored their operation to be compatible
5 around those bases to the point where, in some
6 cases, you can get a cell phone signal almost
7 immediately outside the base that was a
8 protected area.

9 So there's lots of things that
10 industry can do and some of those things need
11 to come out and, ultimately, find their way
12 into the coordination procedures that come out
13 of this. So I think there's a lot that can be
14 started without necessarily waiting for that.

15 We do have the data that was
16 provided through CSMAC before. On the other
17 hand, if that's as far as we can go with the
18 characterization, once again, we're going to
19 end up with fairly large areas. Okay.

20 In some cases, for instance, on
21 the airborne side, one of the biggest issues
22 is going to be looking at the mismatch between

1 the bandwidth you're looking at, the bandwidth
2 that's being emitted, the timing of it, the
3 distance away, and so on.

4 We may find that you're able to
5 reach conclusions on the potential impact in
6 the industry through these measurements, and
7 so on, to get a good idea of whether that's
8 something that you can tolerate.

9 And a lot of what we're looking at
10 here on the industry side, we believe and
11 hope, is that the current technologies are
12 much more tolerant than past technologies, and
13 that's part of what we're going to be looking
14 to see.

15 MEMBER GIBSON: Yes, it's Mark
16 Gibson again. I've been listening to what
17 Kevin, and Charlie, and others have said, it
18 reminds me, going back to, you know, the '80s
19 or '90s when we did work at sharing between
20 PCS and microwave, we only really had one
21 paradigm, that being microwave systems and a
22 class of mobile systems.

1 As we moved into the next
2 paradigm, which is AWS, sharing with federal
3 systems, and we had a guidance document which
4 was Bulletin 10, TSB 10F. I think what we're
5 going to find out of this effort is more
6 guidance documents.

7 And so it will be worthwhile to
8 ensure, and I think you've done this, that the
9 agencies or industry associations that hold
10 those guidance documents, like TIA and others,
11 are part of this process.

12 So as those documents need to be
13 updated to entrench this and parameterize
14 these discussions going forward can be done,
15 because that's really what made it possible to
16 affect sharing in a commercial process through
17 sharing tools, and analyses, and whatnot, you
18 know, to make it work.

19 You know, because a lot of the
20 discussion we had up front was heuristic and
21 theoretical. It really was when we put that
22 stuff into sharing tools and software that it

1 became workable. So I suspect you do have TIA
2 and whatnot involved in that.

3 So I think that a separate effort
4 will need to be to identify the standards as
5 it relates to the interplay between these
6 systems and get that, you know, memorialized.

7 CHAIR FONTES: Are there other
8 questions? Karl?

9 MR. NEBBIA: Are you asking if I
10 have another question?

11 CHAIR FONTES: Yes. Any questions
12 of Karl, then I want to find out if you have
13 any last-minute comments. Great. I think the
14 questions that Charlie raised and Michael
15 raised are important questions to at least
16 consider to begin this process.

17 I think by addressing those types
18 of questions, we will eliminate a lot of the
19 possibilities of conflicts coming out of the
20 report based on differing assumptions going in
21 to the development of report.

22 So we will, I'm sure, have an

1 opportunity to follow up in trying to address
2 the questions that were raised today. I
3 appreciate the discussion that followed Karl's
4 presentation, because I think it actually
5 raised some very valid helpful constructive
6 points, so hats off.

7 As Karl had this deja vu moment of
8 sharing a tent with a Sergeant, I had a deja
9 vu moment of WRC-95 when the United States is
10 getting a little bit of slack from just about
11 every country in the world with the exception
12 of one.

13 And we had a special meeting, kind
14 of, in the sidebar of the conference center
15 and everybody spent two hours just, basically,
16 criticizing the United States and the
17 positions that it's taken, and so forth, and
18 so forth.

19 And so when it came to my turn as
20 the United States' representative at the
21 meeting, I just said, well, thank you very
22 much for identifying the issues, but, you

1 know, I don't know of any group in the world
2 that's gathered at one time that's better
3 capable of addressing the issues that have
4 been raised.

5 So why don't we roll up our
6 sleeves and work to resolve and address the
7 issues? You remember these discussions very
8 well. And I think that this is a great
9 opportunity that we have, for many years we've
10 been talking about the opportunities to better
11 share government spectrum, re-allocation of
12 spectrum, and so forth.

13 I think the report that was
14 presented was a very comprehensive report that
15 is so inclusive of potential solutions for
16 sharing, re-allocation, and so forth, and it
17 doesn't deal just with a particular slice of
18 a band.

19 And I think this is a great
20 opportunity that all of us, and those who will
21 be participating in the working groups, have
22 to roll up their sleeves and to do something

1 that we really haven't achieved in a long
2 time, and that is, trying to find solutions
3 that will benefit both government and
4 commercial entities.

5 And I think this is a step in the
6 right direction. I appreciate Karl working
7 over the weekend to, kind of, pull together
8 this, just kidding, proposal. We'd been
9 having conversations about this earlier.

10 And so I encourage folks to
11 actively engage in these working groups, thank
12 those who are already stepping up to do some
13 of the work and their responsibilities. And
14 so, again, thank you, and thank you, Karl, for
15 that presentation.

16 MR. NEBBIA: Can I just --

17 CHAIR FONTES: Sure.

18 MR. NEBBIA: So in closing, what I
19 would appreciate is if you are interested in
20 being the liaison for one of these groups, and
21 once again, it's critical that we have a CSMAC
22 member on each of the groups, if you could,

1 please, either see me after the meetings here,
2 I'll be around for a little while, or send an
3 email to Bruce Washington and say, you know,
4 you would like to do that, and which group you
5 would like to do that for.

6 And if you would generally like to
7 participate so we can start building the
8 contact list for the groups, if you could
9 provide Bruce, once again, that you are
10 interested in these specific working groups,
11 then we'll begin to build that contact group
12 and, you know, start setting them up.

13 CHAIR FONTES: Great. I'd just
14 like to go over a couple of other things.
15 First off, since we last met, the search for
16 500 MHZ committee, the co-chairs, Karl and
17 Gary, Gary has resigned, as we all know. He's
18 taken the position at the FCC. All of us
19 appreciate the work that Gary has done. I
20 know Karl appreciates the opportunity to have
21 worked with him.

22 And so, you know, we wish Gary the

1 best of luck at the FCC, and it's a great
2 addition to the commission that Gary's
3 rejoined them.

4 Next, there was a question raised
5 earlier about the other committees that are
6 not on hiatus, so to speak, and I'd just like
7 to turn it over to the committee chairs for a
8 second to see what additional work and what
9 plans are, and we're going to do it in a, kind
10 of, reverse order. So, Brian, do you want to
11 chat a little bit?

12 Mark, do you want to chat a little
13 bit?

14 MEMBER GIBSON: Well, what we did
15 from the last working group discussion, the
16 one in Stanford, is, we began to look at the
17 comments you had on the recommendations we
18 made, because I think the only ones that were
19 on the table at the time were the ones we made
20 before that meeting, which I think were the
21 ones in November.

22 So we put together a document

1 that, for the most part, the working group, I
2 think, has approved, that addresses the
3 working group's comments to your comments.
4 You know, so we're ready to let that go, but,
5 you know, I think what we want to do is wait
6 until, you know, we have a meeting.

7 So we'll go through the process,
8 but we have that. Then there is the work plan
9 we had. We were working on the next question,
10 which eludes me right now, but we have begun
11 working on that. And I think it was dealing
12 with how you, you know, work with systems you
13 don't have data on, or something like that.

14 And we've gotten some traction on
15 that and, you know, if we need to, we can
16 present at the next meeting as well. But I
17 think if many of us are going to want to
18 participate in these working groups, and so,
19 I guess the question I had before was, you
20 know, do you want both in July or, you know,
21 how shall we proceed?

22 CHAIR FONTES: Well, clearly, I

1 think the report that's nearly done --

2 MEMBER GIBSON: Yes.

3 CHAIR FONTES: -- we can present
4 that in July. And in terms of the time
5 schedules that Karl has presented, and I know
6 that they're coming upon us already, we may
7 want to also take a look at the functions of
8 these groups and see how many of those working
9 group members are actively engaged in the
10 others, and then, at that point, judge whether
11 or not all of these are put on hiatus.

12 MEMBER TRAMONT: Might I propose
13 that -- Bryan Tramont, sorry. Might I propose
14 that the committee co-chairs come back to you
15 within the next ten days or something with a
16 proposal about what they think they should
17 wrap up come July and then what they think is
18 still viable to keep going on or not, because
19 it may be very distinct to each committee that
20 certain things are in different parts of the
21 work plan.

22 And then Karl and his team can

1 give us feedback on whether there's something
2 that we're working on that should really get
3 done that needs to get done by September.

4 CHAIR FONTES: Right. And some of
5 the work is in progress already.

6 MEMBER TRAMONT: Yes, exactly.

7 CHAIR FONTES: So we may be able
8 to just wrap that up.

9 MEMBER GIBSON: And one point I
10 had to what Bryan was saying is that, we might
11 that, through the work we're doing with the
12 new work plan, we may circle some of, at
13 least, the late issues back into the, you
14 know, various systems and services where we
15 can have them. Implicit in some of that is
16 going to be the availability of data.

17 I don't know that it's going to be
18 a grand scale, but I think we can at least tee
19 some of that up. I don't think it, you know,
20 meshes exactly, but if we can kill two birds
21 with one allocation.

22 CHAIR FONTES: I also appreciate

1 the process where we worked on specific
2 questions. I think it allowed responses to
3 those questions to move forward in a timely
4 fashion rather than waiting to an end report.
5 So I think that has been a very productive
6 model for us to follow.

7 Are there any questions on the
8 remaining committees? Mike, do you have any
9 comments on what you're going to be talking
10 about with respect to being licensed?

11 MEMBER CALABRESE: I don't know
12 about comments, but, you know, I think what
13 Bryan suggested would be good, that we need to
14 huddle. You know, at the Stanford meeting, we
15 were complete on the initial interference
16 questions that we had gone through. We had
17 some things in mind to move on to, but we also
18 had wanted to consult, I think again, with
19 Karl about what would be most productive in
20 the current context.

21 So I think Janice and I, at a
22 minimum, need to huddle about that and

1 probably consult with Karl.

2 CHAIR FONTES: Great. Perfect.
3 Thank you. The next item on the agenda is the
4 schedule of our next meeting. This is going
5 to be schedule in Boulder, Colorado on July
6 24th. It's in the afternoon. So some of the
7 folks from the East Coast who are flying in,
8 you'll be able to fly out that morning and
9 save a little bit of time on your schedules.

10 Any questions about that meeting?
11 Anything that we need to know? Karl?

12 MR. NEBBIA: Just one thing to
13 recognize, the ISART meeting at ITS is going
14 to be held the following two days after our
15 meeting and it will be oriented around
16 spectrum sharing. So it'll be a timely
17 discussion and so just keep that in mind when
18 you make your plans.

19 CHAIR FONTES: Great. I want to
20 thank everyone then for the opportunity of
21 being here today. And at this point, the
22 meeting is adjourned.

1 MR. SNIDER: I have a question. I
2 didn't see any public participation on the
3 schedule. That would be almost unprecedented
4 as far as I know. It should be precedent.
5 Last three meetings, as you know, you
6 essentially threatened to significantly reduce
7 or eliminate public comments.

8 And at the last meeting you said
9 you'd get back to me offline and it didn't
10 happen. So if you could just clarify what the
11 policy is and do you anticipate this as a one-
12 time event? Are you eliminating public
13 comments from the meetings?

14 It's been more than six months
15 since, you know, any allowed face-to-face
16 public participation in Washington and these
17 meetings that you've been having, you know,
18 meetings elsewhere and whatever. So if you
19 could just clarify what your policy is I would
20 appreciate it.

21 CHAIR FONTES: Sure. For the
22 purpose of today's meeting, this is basically

1 an information meeting about what the approach
2 will be for the CSMAC over the next, what,
3 seven months. And to just kind of go through
4 the outline of how the working groups will be
5 structured and so forth.

6 There were no reports in order to
7 comment on those reports that were presented
8 at this meeting. We do provide opportunity,
9 when there are reports that are presented, for
10 the public to respond to the information
11 contained in those reports.

12 So that's the rationale for
13 today's meeting was simply that this is an
14 informational meeting on how we're going to
15 proceed in the future.

16 MR. SNIDER: So just to clarify,
17 there is no intended policy of eliminating
18 public comments, especially on procedural
19 issues? Because that was coming up again and
20 again.

21 CHAIR FONTES: That is correct.

22 MR. SNIDER: Okay. Great. Thank

1 you.

2 CHAIR FONTES: Any last comments
3 from the members of the committee? I want to
4 thank you for your time today. I encourage
5 your participation and again, the meeting is
6 adjourned. Thank you.

7 (Whereupon, the meeting was
8 concluded at 11:27 a.m.)

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In the matter of: Commerce Spectrum Management
Advisory Committee Meeting

Before: US DOC

Date: 05-20-12

Place: Washington, DC

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