

UNITED STATES DEPARTMENT OF COMMERCE  
NATIONAL TELECOMMUNICATIONS AND INFORMATION  
ADMINISTRATION

COMMERCE SPECTRUM MANAGEMENT ADVISORY COMMITTEE  
(CSMAC) MEETING

Washington, D.C.

Friday, July 15, 2022

## 1 PARTICIPANTS:

2 ANTONIO RICHARDSON  
3 Organizer, Designated Federal Officer  
4 NTIA

4 CHARLA RATH  
5 Co-Chair  
6 Commerce Spectrum Management Advisory  
7 Committee

6 ALAN DAVIDSON  
7 Assistant Secretary of Commerce for  
8 Communications and Information  
9 NTIA

9 CHARLES COOPER  
10 Associate Administrator, Office of Spectrum  
11 Management  
12 NTIA

11 REZA AFEFI  
12 Director, Emerging Spectrum Strategies and  
13 Planning Intel

13 JENNIFER ALVAREZ  
14 CEO  
15 Aurora Insight Inc.

15 HILARY CAIN  
16 Vice President of Technology, Innovation and  
17 Mobility Policy  
18 Alliance for Automotive Innovation

18 MICHAEL CALABRESE  
19 Director  
20 The New American Foundation, Wireless Future  
21 Program

20 THOMAS DOMBROWSKY, JR.  
21 Senior Engineering Advisor  
22 DLA Piper LLP

## 1 PARTICIPANTS (CONT'D):

2 H. MARK GIBSON  
3 Senior Director, Business Development.  
4 CommScope

5 DALE HATFIELD  
6 Senior Fellow  
7 Silicon Flatirons Centers for Law,  
8 Technology, and Entrepreneurship

9 CAROLYN KAHN  
10 Chief Spectrum Economist  
11 The MITRE Corporation, Center for Acquisition  
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14 Senior VP, Regulatory Affairs  
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22 DONNA BETHEA-MURPHY  
Senior VP, Global Regulatory  
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Senior Spectrum Regulatory Advisor  
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4 GLENN REYNOLDS  
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5 Alliance for Telecommunications Industry  
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## 1 P R O C E E D I N G S

2 (1:01 p.m.)

3 MR. RICHARDSON: Good afternoon,  
4 everyone, and welcome to the Commerce Spectrum  
5 Management Advisory Committee meeting.

6 For those who don't know me, my name is  
7 Antonio Richardson. I'm the designated federal  
8 officer for this committee. Of course, this is  
9 the first meeting of the new term, and I'm really  
10 excited to get this going, and I'm also looking  
11 forward to working with all the committee members,  
12 both new and old, so it's going to be really nice.

13 And with that being said, I'd like to put out  
14 a couple of housekeeping notes. One, please mute  
15 your phone and or microphones on your computers if  
16 you're not talking. I think we're going to do  
17 pretty good. I think after two years now, I think  
18 we all should be aware of that, you know, open  
19 mic, so of course that'll just keep down the extra  
20 noise, unnecessary noise.

21 Also, with regards to the ethics briefing that  
22 will be done at the conclusion of this meeting, so

1 I'm going to need all the CSMAC members to stay  
2 online after the meeting is adjourned, to take  
3 maybe ten minutes at the most to do the ethics  
4 briefing. Mr. Eli Sherlock will come on toward  
5 the end there and we'll go ahead on and conduct  
6 that.

7 So, with that being said, this meeting is  
8 being recorded to assist with the drafting the  
9 summary meeting minutes, and attendees' volunteer  
10 participation in the meeting demonstrates consents  
11 to this recording, and I will now turn this over  
12 to Mr. Charles Cooper, the associate administrator  
13 for the office of Spectrum management, here at  
14 NTIA, Mr. Cooper.

15 MR. COOPER: Thank you, Antonio. We  
16 will start off the meeting with opening remarks by  
17 Assistant Secretary Alan Davidson. Little bit of  
18 background on Alan, after receiving his recent  
19 senate confirmation, Alan has been at NTIA now,  
20 but this is also his first meeting, and of course,  
21 the first meeting of the cycle. Alan is a  
22 internet policy expert with over 20 years of

1       experience, as an executive, public interest  
2       advocate, technologist, and attorney.

3           He was most recently a senior advisor at the  
4       Mozilla Foundation, a global nonprofit that  
5       promotes openness, innovation, and participation  
6       on the internet. Alan earlier served in the  
7       Obama-Biden Administration as the first director  
8       of digital economy at the U.S. Department of  
9       Commerce. He started Google's public policy  
10      office in Washington, D.C., leading government  
11      relations and policy in North and South America  
12      for seven years, until 2012. It's my pleasure to  
13      introduce Alan.

14           MR. DAVIDSON: Well, thank -- thank you  
15      Charles, and thank you everyone for joining.

16           Welcome to our first CSMAC meeting of 2022 as  
17      we kick off this new cycle for the committee. I'm  
18      excited to join you. And first I'll start by  
19      saying, welcome to all our returning and new  
20      members of CSMAC. Welcome as well to the public  
21      that's joining us today, and we really appreciate  
22      the attention. As Charles noted, this is my first



1 CSMAC, my first CSMAC ever I should say. I've  
2 been hearing about this committee for years. It  
3 does have one of the acronyms that you can  
4 actually say, which I think actually helps.

5 But it has a high reputation, a high  
6 reputation, I should say in our community. And  
7 that's largely because of all of you. It's always  
8 attracted dedicated people, dedicated  
9 professionals, with a wide range of experiences to  
10 help inform our -- our federal work on Spectrum.  
11 And it's always had a commitment to evidence- and  
12 science-based decision making that we feel is  
13 extremely important today.

14 This term, of course, we're welcoming back 15  
15 returning members, so thank you for continuing to  
16 support this work, and, I think, we've got 13 new  
17 members, which is terrific to see.

18 CSMAC this year is going to be co-chaired by  
19 Charla Rath and Jennifer Manner, two CSMAC  
20 veterans, who have been really guiding lights in  
21 our Spectrum community for many years. I just  
22 want to say a special thank you to your both -- to

1       you both for your service.

2            You know, as we think about the work of this  
3       group, and our work at NTIA, I think there are  
4       really three top priorities, three things that are  
5       top of mind for me, as we think about promoting  
6       effective and efficient use of Spectrum to meet  
7       our nation's needs. You know, the first is that  
8       NTIA is really working towards a coordinated  
9       national approach to Spectrum use, with an  
10      emphasis on coordinated.

11           As I mentioned, we really care deeply now  
12      about promoting evidence-based approaches to  
13      Spectrum allocation, and working through the hard  
14      science issues there, and we are going to be  
15      leaning on new, innovative technology to ensure  
16      that we can meet the -- meet the Spectrum needs of  
17      our country in the future, especially at a time  
18      of, you know, increasing scarcity, increasing  
19      demand.

20           You know, a starting point in those three --  
21      in those pieces has been our work to coordinate  
22      across the federal government, and particularly

1 with the FCC. And I'll just do a particular  
2 shoutout to the FCC chairwoman and the Spectrum  
3 coordination initiative that we launched together.  
4 The chairwoman's been a -- a terrific partner for  
5 me already in this job, very kind and generous in  
6 her time.

7 And also, we are very committed to making sure  
8 that the commission, and NTIA and the other  
9 federal agencies, are all working together well  
10 and in lockstep. Some of you have probably heard  
11 about the Spectrum coordination initiative that we  
12 launched, and a piece of that is making sure that  
13 we're exchanging technical information well.

14 And so, today, I'm glad that we're welcome  
15 Jessica Quinley, of the FCC's Wireless  
16 Telecommunications Bureau, to CSMAC, as the FCC's  
17 liaison and representative. We've also similarly  
18 sent Doug Brake from our -- from OSM, our Office  
19 of Spectrum Management, has been attending the  
20 FCC's technical advisory committee meetings as  
21 NTIA's representative, and I think that that  
22 cross-pollination is really important. It's

1 important symbolically, but it's important truly  
2 to make sure that we are well in sync on what  
3 we're doing and learning together.

4 I will say, as I think about those priorities  
5 and goals for us, CSMAC is really actually an  
6 important element in this overall effort. And I  
7 know you -- this committee has a long history, but  
8 your guidance is really more important than ever  
9 for us. I've said in -- in public hearings and at  
10 my confirmation process that I hope that our goal  
11 in Spectrum at NTIA is going to be increasingly to  
12 look ahead. You know, not just think about the  
13 next year or two, but to be thinking about five  
14 years out, ten years out.

15 It's the old, you know, ice-skating Wayne  
16 Gretzky quote that, you know -- "Don't skate to  
17 where the puck is now, but skate to where the puck  
18 is going." And that's very much where I hope  
19 CSMAC can help us. When I was first, you know,  
20 getting -- learning about a lot about Spectrum 10  
21 or 12 years ago, 15 years ago, the conversations  
22 that we're having now about technology, about

1       which bands are going to be of use for the private  
2       sector, so different now than what the  
3       conversation we were -- I don't have to tell you  
4       all, right? So -- but it's amazing to reflect  
5       back and think about how much has changed, and we  
6       can only imagine how things are going to change in  
7       the next decade. And so, this is where I really  
8       feel like the -- the input and guidance of the  
9       private sector of stakeholders and academics is so  
10      important for us.

11             This cycle, we've got a new set of questions  
12      for -- that we've -- we're posing to CSMAC to  
13      study. You know, topics that include Spectrum  
14      Relocation Fund, the impact of 6G on government  
15      services, how we can improve electromagnetic  
16      capability -- I'm sorry, compatibility, and  
17      Ultra-Wideband rules. But all of this is really  
18      about how your guidance on these issues will  
19      impact, and can impact, government and nonfederal  
20      Spectrum usage for years to come. So, it's very  
21      important work, and we really value it.

22             Last thing I'll just say is, you know, I'm

1 very committed to making sure that you have the  
2 ability to follow the science and the engineering  
3 wherever they lead you, in the tradition of  
4 evidence-based policymaking that we feel has  
5 always guided this committee. You all have access  
6 to all the data and tools that NTIA can offer to  
7 help you achieve those objectives, and I'm very  
8 committed working with Charla and Jennifer to  
9 ensure that you can organize yourselves well,  
10 performance research as you need to, and reach  
11 conclusions and recommendations in a way that you  
12 feel is appropriate and accurate.

13 So, I'll just conclude by saying welcome  
14 again, I'm really looking forward to the work of  
15 this committee over this term, and to receiving  
16 your input, and thank you again for your service.  
17 And back to you, Charles.

18 MR. COOPER: Thank you so much for those  
19 remarks, Alan. As Alan mentioned, we are pleased  
20 this cycle to continue what's becoming a  
21 tradition, to have two Co-Chairs. And this year,  
22 we even have one returning Co-Chair. Charla Rath

1 has served as a member of CSMAC since 2014 and was  
2 Co- Chair last CSMAC cycle. Charla is an  
3 independent consultant, who until 2019 was vice  
4 president of Wireless Policy Development at  
5 Verizon.

6 Our second Co-Chair is Jennifer Manner, who  
7 became a CSMAC member in 2019. Jennifer is senior  
8 vice president of regulatory affairs at Echostar  
9 Hughes. On behalf of Commerce Secretary Armando,  
10 Assistant Secretary Alan Davidson, all of us here  
11 at NTIA, thank you to both of you for agreeing to  
12 be CSMAC chairs, and also to the overall 28 CSMAC  
13 members. And now, over to the Co-Chairs.

14 MS. RATH: Thank you very much, Charles.  
15 I'm really happy to be returning, not only as a  
16 CSMAC member, as a Co- Chair with Jennifer Manner,  
17 and really looking forward to our first session.  
18 Thank you too to Assistant Secretary Davidson for  
19 your remarks. We obviously have our marching  
20 orders, and we in particular, we really do  
21 appreciate the support that has always been  
22 incredible from NTIA, just in terms of, you know,

1 the staffing on our subcommittees, and the  
2 professionalism of the people involved, so thank  
3 you for that, and we really do appreciate it.

4 And you know, welcome to returning members,  
5 and a special welcome to new members, and it's  
6 actually great to see, you know, as always, that  
7 NTIA manages to put together such an interesting  
8 and diverse group of people. It does create some  
9 interesting moments in subcommittees, and in full  
10 committees. But that's what this is all about,  
11 and we're very happy that you're all here, and  
12 looking forward to kind of just moving forward  
13 with the work.

14 As Assistant Secretary Davidson mentioned, we  
15 have four topics that NTIA has asked us to address  
16 this year -- this session, it's -- actually, will  
17 be two years. And we'll be going through that in  
18 more detail in not the next section, but the  
19 session after that.

20 And, but just briefly again, we are going to  
21 revisit the Spectrum Relocation Fund, as, you  
22 know, some of you on this committee know, we've



1       actually -- we take a look at this every few  
2       years, because it's -- it is a very important and  
3       a very challenging thing to be working on. And  
4       so, I think we're looking forward to looking at  
5       that. 6G and beyond, it goes without saying why  
6       that's important. It's important for NTIA and the  
7       government to get ahead of things, and I think  
8       it'll be a lot of fun to see what comes out of  
9       that, and I'm looking forward to it.

10            Electromagnetic compatibility improvements is  
11       always an important thing that we look at, and  
12       it's -- it's the type of thing, it's -- it's kind  
13       of CSMAC's bread and butter, this type of work.  
14       So, we're also looking forward to that. And then  
15       Ultra-Wideband, which for some of us brings back,  
16       you know, some memories of even a few decades ago,  
17       will be, I think, interesting to start to reach  
18       into that again to just see if there's some things  
19       that we can recommend to help -- to help NTIA with  
20       some of the issues that are arising as a result of  
21       it.

22            So, with that I'm going to turn it over to my

1 Co- Chair, who will roll call to make sure you're  
2 all here. So, Jennifer, it's all yours.

3 MS. MANNER: Thank you so much, Charla,  
4 and -- and thank you, Assistant secretary  
5 Davidson. We're super excited for the start of  
6 CSMAC, and Charla and I look forward working with  
7 our colleagues to make sure this is a very  
8 successful effort on the part of all of us. So,  
9 with that, the people who are going to make us  
10 successful, I thought I would ask each of you to  
11 briefly introduce yourself. Just to remind you,  
12 we are on a tight timeframe, so I would ask you to  
13 keep it under a minute please. But I'll start --  
14 I'm going to go in alphabetical order, so Jennifer  
15 Alvarez first. If she's here.

16 MS. ALVAREZ: Hi, everybody. I'm --  
17 yes, I'm Jennifer Alvarez. Nice to be here. I'm  
18 a new member. I have spent about 30 years as a  
19 developer of systems that rely on Spectrum, and in  
20 the past 5 years, gotten more into Spectrum  
21 policy, so I'm looking forward to bringing my  
22 experiences as a Spectrum user to play.

1 MS. MANNER: Thank you so much. Hilary  
2 Cain, I don't know if you're on the phone?

3 MS. CAIN: Yeah, hi. Hilary Cain, vice  
4 president for technology in the Alliance for  
5 Automotive Innovation. I'm at the airport, so I  
6 will be with you as long as I can, but we'll --  
7 boarding a plane shortly, so, nice to see you all.

8 MS. MANNER: Have a good flight, and  
9 thanks for joining us. Michael Calabrese, please.

10 MR. CALABRESE: Yes, hi. So, I'm,  
11 relatively speaking, an old hand. I've been on  
12 CSMAC since 2009, and I direct the wireless  
13 feature project at New America. It's part of the  
14 Open Technology Institute. New America's a  
15 nonprofit thinktank in D.C., although I'm based in  
16 the Bay Area now. I actually moved out here just  
17 before the pandemic. So, I really look forward to  
18 getting back to these great topics with you all.

19 MS. MANNER: Thank you. Tom Dombrowsky,  
20 please.

21 MR. DOMBROWSKY: Hello, I'm Tom  
22 Dombrowsky. I'm an engineer. I've been doing

1 this kind of stuff for about 35 years, and been on  
2 CSMAC longer than I'd like to admit, but happy to  
3 get engaged with everybody again and get going  
4 again.

5 MS. MANNER: Thank you so much. Mark  
6 Gibson, please.

7 MR. GIBSON: Hi everybody, I'm Mark  
8 Gibson. I've been on CSMAC I think since 2010 or  
9 2011, so it's nice to see my brethren, and a  
10 former Co-Chair of CSMAC, I think I co-chaired  
11 CSMAC before Jennifer -- Jennifer Warren and, not  
12 Jennifer -- Charla did. My background has been  
13 primarily in Spectrum sharing and Spectrum  
14 management. I work for a company called  
15 CommScope, which has a company called Comsearch as  
16 part of it, and that's where I cut my teeth. So,  
17 I'm really happy to get involved. These look like  
18 really interesting topics, and good to be back.  
19 Thanks.

20 MS. MANNER: Thank you so much. Dale  
21 Hatfield, please.

22 MR. HATFIELD: Yes, I'm Dale Hatfield,

1 University of Colorado at Boulder. I go back, of  
2 course, to the origins of CSMAC, as well. And I  
3 just -- I actually started getting involved in  
4 Spectrum in 1963, I -- and I'm -- you can do the  
5 math. But anyway, I'm really looking forward to  
6 working with you all, and with this interesting  
7 set of topics.

8 MS. MANNER: Thank you, Dale. I'm  
9 trying to figure out, which means you started when  
10 you were one year old? So, we're happy to have  
11 you join us. Carolyn, please? Khan.

12 MS. KAHN: Hi, I'm Carolyn Khan. I've  
13 been working Spectrum issues for 25 years. My  
14 expertise is economics policy, but touches across  
15 a wide range of different Spectrum topics. So,  
16 I'm a returning member, and look forward to  
17 working on the great topics. Thanks.

18 MS. MANNER: Thanks, Carolyn. Paul  
19 Margie, please?

20 MR. MARGIE: Hello, I'm Paul Margie.  
21 I'm a lawyer and have been working on Spectrum  
22 issues at -- on the hill and on the FCC, and as

1 part of the United Nations system, and I'm happy  
2 to be here. I'm a new -- new member.

3 MS. MANNER: Thanks, Paul. Jennifer  
4 McCarthy, please.

5 MS. MCCARTHY: Hi everyone, I'm Jennifer  
6 McCarthy. I'm vice president of legal advocacy  
7 for Federated Wireless. I'm one of the four  
8 Jennifers, I believe, on this committee, which is  
9 fantastic, good to be in that great company.

10 I've been in the wireless telecom business for  
11 about years now at a variety of companies,  
12 including QualComm, and NextWave, and now  
13 Federated Wireless, and I'm glad to see so many  
14 familiar faces here, and look forward to working  
15 with everyone on these exciting topics. Thanks  
16 for having me.

17 MS. MANNER: Thank you, and as you know  
18 they say, you can never have too many Jennifers.  
19 And with that, Karl Nebbia, please.

20 MR. NEBBIA: My name's not Jennifer,  
21 sorry. I'm Karl Nebbia. I was a former associate  
22 administrator of the Office of Spectrum

1 Management, so, my hope in participating here will  
2 be to offer that kind of perspective from the past  
3 inside activity, and participation in the process.  
4 Since retiring from NTIA, I've been continuing to work  
5 as a Spectrum management and Spectrum regulatory  
6 consultant through Alliance Science, which has now  
7 been bought out by Huntington Ingalls Industries. So,  
8 that's who I officially work for.  
9 So, anyway, looking forward to continue work with  
10 folks that I've known for a long time.

11 MS. MANNER: All right, thank you Karl.  
12 Louis Peraertz, please. And --

13 MR. PERAERTZ: Thanks, Jennifer.

14 MS. MANNER: Sorry --

15 MR. PERAERTZ: Excuse me, can you hear  
16 me okay?

17 MS. MANNER: I -- I can, I was just -- I  
18 noticed Charla had her hand up.

19 MR. PERAERTZ: Okay.

20 MS. MANNER: So, Charla, did you need  
21 the floor?

22 MS. RATH: No. Sorry, Jennifer.

1 MS. MANNER: No, okay. Okay, sorry  
2 Louis, I was just hoping it was something  
3 important. So, please go ahead, I apologize.

4 MR. PERAERTZ: Okay. No, no, that's all  
5 right. And thanks again Jennifer. And my name is  
6 Louis Peraertz, I'm the vice president of policy  
7 for WISPA, Wireless Internet Service Providers  
8 Association. As many of the folks on this  
9 committee known, prior to this I was -- I worked  
10 for many years at the FCC and was a wireless  
11 advisor to FCC former commissioner Ming Yung  
12 Clyburn. I'm -- I've heard an awful lot about the  
13 tremendous work that this committee does, and I'm  
14 thrilled to be a part of it. Thank you.

15 MS. MANNER: Thank you. And Danielle  
16 Piñeres, please?

17 MS. PIÑERES: Hi, everyone. My name is  
18 Danielle Piñeres. I'm VP of Regulatory Affairs  
19 and Compliance at Planet Labs PBC, which is a  
20 satellite manufacturing operator for Earth  
21 observation imagery. I've been working on  
22 wireless Spectrum issues for the past decade or



1 so, and I've heard a lot about CSMAC. I'm really  
2 pleased to join all of you as a new member, and  
3 look forward to working on these issues.

4 MS. MANNER: Thank you. Glenn Reynolds,  
5 please.

6 MR. REYNOLDS: Jennifer, thanks. Glenn  
7 Reynolds from ATIS, the Alliance for  
8 Telecommunications Informations -- Industry  
9 Solutions, and its latest initiative, which is the  
10 Next G Alliance, focused on North American  
11 leadership in 6G. In one of my previous roles as  
12 chief of staff of NTIA, I was on the receiving end  
13 of the, you know, tremendously valuable work that  
14 this group does, and I'm excited to be part of it.

15 MS. MANNER: Thank you so much. Dennis  
16 Roberson, please.

17 MR. ROBERSON: Hey all, good to be with  
18 you. I'm the president CEO of Roberson and  
19 Associates, some name association that goes with  
20 that, and I have been involved with  
21 Spectrum-related activities for a relatively short  
22 time, in fact sort of the midpoint of my career 25

1 years ago, and -- not nearly as long as Dale, of  
2 course, but beginning to have a good history.

3 And I've been part of CSMAC for a decade now  
4 or a little more, and very much enjoy the  
5 activities involved, and hopefully was able to  
6 provide some level of contribution. And I'm  
7 looking forward very much to the activities of  
8 this round of CSMAC, and in particular partnering  
9 with Paul Margie and undertaking the UWB questions  
10 for the committee. So, good to be with you.

11 MS. MANNER: Thanks, Dennis. Andrew  
12 Roy, please.

13 MR. ROY: Thank you. I'm Andrew Roy,  
14 I'm an RF engineer with 20 years' experience in  
15 aviation RF systems, particularly Spectrum,  
16 started with the military and now the civilian  
17 world. This is my third time on CSMAC, and I'm  
18 very much looking forward to working with both the  
19 existing and new members on the activities we've  
20 got planned for us. Thank you.

21 MS. MANNER: Thank you so much. Jesse  
22 Russell, please.

1                   MR. RUSSELL: Hi, Jennifer. Thank you.  
2                   I'm currently chairman of incNetworks, chairman  
3                   and CEO of incNetworks technologies. Been in the  
4                   business for about 40 years, and I have been, I  
5                   guess dubious distinction of starting the concept  
6                   of Gs. We're responsible for the development of  
7                   digital cellular communications, small cell  
8                   technology, and currently focus more on 6G,  
9                   Spectrum technology, and fractal networks.

10                  MS. MANNER: Thank you so much. Steve  
11                  Sharkey, please.

12                  MR. SHARKEY: Hi, Steve Sharkey. I'm  
13                  vice president in engineering technology policy at  
14                  T-Mobile. I'm also a long-term or long-time CSMAC  
15                  member, so, pleased to be back. I've been doing  
16                  Spectrum policy work for something over 30 years,  
17                  and a couple of companies in the government as  
18                  well at the FCC. Thank you.

19                  MS. MANNER: Thank you so much. Mariam  
20                  Sorond, please.

21                  MS. SOROND: Thank you, Jennifer. Hello  
22                  everyone, I'm Mariam Sorond. I've been a member

1 of CSMAC since 2014. Currently I am the CTO for  
2 the service provider and edge business unit at  
3 VMware. I joined in April, sort of consistent  
4 with where the puck is going. But my background  
5 is primarily in the Telco cable satellite, most  
6 recent positions was chief R&D officer at Cable  
7 Labs, and chief wireless architect at Dish. I  
8 have been working on Spectrum technology, sort of,  
9 topics for 27 years. Great to see some of the  
10 familiar faces. Welcome to all the new members.  
11 Looking forward to this.

12 MS. MANNER: Thanks, Mariam. New name  
13 for me. Rikin Thakker, please. Welcome.

14 MR. THAKKER: Thanks, Jennifer. Hey  
15 everyone. This is Rikin Thakker. I'm the chief  
16 technology officer for the Wireless Infrastructure  
17 Association, WIA, also faculty member at the EC  
18 Department at the University of Maryland, where  
19 I've been teaching for the Master's in  
20 Telecommunications Program. I'm very honored by  
21 this opportunity to start on this prestigious  
22 committee. This is my first time, but I am

1 somewhat familiar with the structure, as I've  
2 followed many of you, and CSMAC, since my PhD  
3 days, and many of you actually advised me during  
4 that time, that was ten years ago. I see many  
5 familiar faces, so I'm looking forward to working  
6 with you all.

7 I am also currently serving on the  
8 Technological Advisory Council with Jennifer at  
9 the FCC, and at TAC I'm on the 6G working group  
10 where we talk about 6G advancements, use cases,  
11 Spectrum, and standard development parts.

12 And prior to FCC's TAC, I was serving FCC's  
13 BDAC, Broadband Deployment Advisory Committee, and  
14 co-chaired the job skills training opportunity  
15 working group. Really looking forward to working  
16 with you all.

17 MS. MANNER: Thank you so much. Bryan  
18 Tramont, please.

19 MR. TRAMONT: Yes, Ms. Manner. I'm  
20 Bryan Tramont, I'm the managing partner at  
21 Wilkinson Barker Knauer. Previous to that, I  
22 served at the FCC for a number of years. This --

1 I've been on CSMAC since, I think, it was  
2 originally chartered, and I did a spin as chair,  
3 so good luck to Charla and Jennifer, it's a great  
4 gig, and I'm looking forward to working with all  
5 the new members and the new team at NTIA. Thank  
6 you.

7 MS. MANNER: Thanks, Bryan. Jennifer  
8 Warren, please.

9 MS. WARREN: Hi, I'm a returning member,  
10 and I had the privilege of chairing the last cycle  
11 with Charla. I'm looking forward to -- to this  
12 cycle, and the topics that have been presented.  
13 My expertise is policies, domestic and  
14 international, and I bring both an aerospace &  
15 defense and FCC background. Thank you.

16 MS. MANNER: Thank you. We have Bob  
17 Weller, but I think he couldn't make the meeting.  
18 But I did want to at least mention that he is a  
19 member. And next, of course, is Patrick Welsh,  
20 please. Patrick.

21 MR. WELSH: Hi, I'm Patrick Welsh. I'm  
22 a vice president of federal regulatory and legal

1       affairs at Verizon. I've been in the wireless  
2       industry for 25 years, with a focus on technology  
3       and Spectrum policy. I'm new to CSMAC this year,  
4       but I see a lot of familiar faces, and I'm looking  
5       forward to working with you and some of the new  
6       faces.

7               MS. MANNER: Thank you. And last but  
8       certainly not least, David Wright, please?

9               MR. WRIGHT: Yeah, thank you Jennifer.  
10       So, yeah. Batting cleanup, I'll just say I see a  
11       lot of familiar faces. I think Patrick and Rikin  
12       both noted that. So, I am a new member. Very  
13       much looking forward to serving with you all.  
14       I've been in the telecom space for about 30 years.  
15       I'm currently the president of the OnGo Alliance,  
16       formerly the CBRS Alliance, so I've worked closely  
17       with NTIA over the last, oh goodness, I guess  
18       decade now, you know, getting CBRS commercialized.  
19       And then, my paying job is with Hewlett- Packard  
20       Enterprise, where I head up our global wireless  
21       policy initiatives. And we have interests in  
22       licensed, unlicensed, and shared Spectrum. So,

1 very much looking forward to working with all of  
2 you.

3 MS. MANNER: Thank you, David, and --  
4 I'm hearing an echo -- and thanks to all of you.  
5 We're very much looking forward to working with  
6 everyone. And with that, Charles, I'll turn the  
7 floor back over to you, please.

8 MR. COOPER: All right, thank you  
9 Jennifer, and appreciate the roll call. It's  
10 going to be exciting, an exciting cycle for sure.  
11 But since we haven't met for over a year, due to  
12 the time involved in rechartering and recruiting a  
13 new CSMAC, I'd like to briefly review where we are  
14 in the evolution of the Spectrum issues before us.

15 Over the past few years, a total of 533  
16 megahertz of Spectrum has been made available in  
17 this critical mid-band range. Spectrum from 3450  
18 to 3980 megahertz has been made available through  
19 a combination of federal and nonfederal resources,  
20 and through relocation and Spectrum sharing.

21 We're continuing to work with the commission and  
22 other federal agencies to manage these



1 transitions, which involve Spectrum equities for  
2 several agencies.

3 We continue to take a close look, in  
4 conjunction of course with the commission and the  
5 agencies, at what additional Spectrum resources  
6 can be made available, all while maintaining the  
7 federal agencies' access to Spectrum. They need  
8 to complete their critical statutory missions.  
9 The administration's current focus is on 3100 to  
10 3450. As an initial step, the Department of  
11 Defense is evaluating, pursuant to their  
12 congressional directive and funding, the potential  
13 to repurpose some or all of the band through  
14 sharing. NTIA is then tasked to identify whether  
15 the Spectrum can be made available. On a  
16 technical side, we continue to focus on dynamic  
17 Spectrum access, and how we can get best results  
18 through efforts, like our concept of the Incumbent  
19 Informing Capability.

20 Meanwhile, looking at the past cycle, the  
21 CSMAC responses to those 30 questions have been  
22 extremely helpful to NTIA. As Assistant Secretary

1 Davison noted, the Spectrum coordination  
2 initiative we embarked on earlier this year  
3 included a joint taskforce on the MOU we have come  
4 with the FCC. We are in the advanced stages of  
5 reviewing and updating the MOU. I want to  
6 highlight that CSMAC previously provided valuable  
7 suggestions on how we may improve this MOU, which  
8 NTIA took under advisement. We hope an updated  
9 MOU will bring a strong vehicle for even closer  
10 coordination with the commission, on a range of  
11 policy and technical issues. We think it will  
12 also embody some of the mutual values that we have  
13 identified, such as the importance of  
14 evidence-based policymaking, the need for greater  
15 long-range planning, and a focus on more frequent  
16 meetings with subsidive (sic) agendas, from the  
17 staff level all the way up to the leadership  
18 level. I hope the CSMAC members will recognize  
19 their input in the new MOU, and in other elements  
20 of the coordination initiative. I think that this  
21 is a good example of how relevant CSMAC work can  
22 be, and how quickly it can flow into policy

1 development.

2 In the previous term, CSMAC also addressed the  
3 UAS Command and Control Requirements, and we  
4 highlighted this important CSMAC work in  
5 responding late last year to an FCC public notice  
6 on UAS Spectrum.

7 Another CSMAC question was how NTIA's and the  
8 FCC's equipment authorization rules could be  
9 modified to require transmitter to use a unique  
10 identifier as an aid to resolving interference  
11 sources. The conclusion of that study group was  
12 that a band-by-band or use case approach should be  
13 used, rather than some broader mandate and an  
14 equipment authorization rules. We are certainly  
15 assessing this as we make our regular manual  
16 updates.

17 And the final question from last term on the  
18 feasibility of requesting information about future  
19 Spectrum requirements and current usage from  
20 industry and other nonfederal users, that will be  
21 helpful to us as we craft a new Spectrum strategy.

22 Looking forward, as Assistant Secretary

1 Davison noticed, we have found four new study  
2 questions from the current CSMAC term. They are,  
3 should there be additional improvements to the  
4 Spectrum Relocation Fund? What is the potential  
5 impact of 6G on government services? What  
6 improvements could be there to increase  
7 electromagnetic compatibility? And should there  
8 be modifications to the Ultra-Wideband rules?  
9 These questions cover a broad range of policy and  
10 technical issues.

11 This CSMAC meeting will begin the process of  
12 organizing the committee and addressing these  
13 challenges. I and our team stand ready to engage  
14 in the discussions and help in any way that we  
15 can. As Assistant Secretary Davison noted, you  
16 have access to all the resources and support you  
17 need for your research.

18 I'm also like to take this opportunity to  
19 welcome our new Federal Designated Officer to this  
20 cycle, Antonio Richardson. Thank you, Antonio,  
21 for being willing to take on this big  
22 responsibility. I want to conclude by again

1       expressing my thanks and appreciation that you are  
2       willing to take the time and attention to devote  
3       to the effort to serving on CSMAC. It is the hard  
4       work and dedication of yourselves and others who  
5       preceded you that have made this membership on the  
6       CSMAC an important and well-respected position  
7       within the Spectrum community. I look forward to  
8       working with you to add to that legacy. So now,  
9       back over to our Co-Chairs, and I'm also happy to  
10      take any questions from CSMAC members. Note, I'll  
11      be available during the public comment period,  
12      too. Thank you.

13               MS. RATH: And -- and Charles, this is  
14      Charla. Just as a reminder to folks, if they do  
15      have questions, you can just raise your hand, and  
16      we'll call on you. Don't use the chat function  
17      like we did the last time, for those of you who  
18      are returning members. It's just purely raise  
19      your hand. So, if anybody has any questions for  
20      Charles now, just let us know.

21               Well, I think it -- I think it looks like  
22      we're ready to move on to the next.

1 MS. MANNER: Yeah. So, thank you  
2 Charla. I did want to just note one thing. I did  
3 want to note that April Delaney, whose NTIA's  
4 deputy assistant secretary, is on the call today  
5 as well, and we're honored to have her join us as  
6 well. She of course has a very long and  
7 established career in Spectrum and  
8 telecommunication. So, April, I just wanted to  
9 recognize that you were on with us.

10 So, next on our agenda, we're going to  
11 introduce our topics in more detail, and our  
12 subcommittee Co-Chairs. And I -- as someone who  
13 served last term as a subcommittee Co-Chair, these  
14 people really deserve our thanks, because they  
15 lead a really big effort, working with the members  
16 of the CSMAC to end up creating the reports that,  
17 of course -- and the recommendations that CSMAC  
18 does release at the end of our term, or during our  
19 term, it depends when different questions are  
20 done. So, I wanted to thank them all in advance.  
21 But I also want to encourage our members to please  
22 get actively involved in each of the four subject

1 areas, because, of course, without that, we won't  
2 be successful.

3 So, I'm going to turn it over to Charla to  
4 introduce our first two subcommittee Co-Chair  
5 groups. So, Charla, with that?

6 MR. RICHARDSON: Can I get -- can I ask  
7 you guys to hold up a second? April, were you  
8 trying to speak? I'm sorry.

9 MS. DELANEY: No, I just wanted to say,  
10 I'm thrilled. I've -- it was great to see many  
11 friends, old and new, and that this is really  
12 important work, and I really am thrilled to -- and  
13 I love to see Dale Hatfield, and I know he's been  
14 going to where the puck has been going for a long  
15 time. And so, it's thrilling to be here, and I  
16 will just be listening in. I'm actually on the  
17 road today, but I will be listening in the whole  
18 way, and I'm just glad to see friends old and new,  
19 and to work with all of you.

20 MR. RICHARDSON: Okay, thank you. I'm  
21 sorry there, Charla and Jennifer. Over to you  
22 guys.

1 MS. RATH: Oh, no. No apologies. Yeah,  
2 no -- no apologies necessary. Just, as Jennifer  
3 said, I'm going to introduce the first two  
4 subcommittees. We -- for Spectrum Relocation  
5 Fund, it is Mariam Sorond and Patrick Welsh, and I  
6 think Patrick, you are going to speak first?

7 MR. WELSH: Sure, thank you Charla. So,  
8 Mariam and I will be co-chairing the Spectrum  
9 Relocation Fund working group. This is an issue  
10 that's been near and dear to my heart since it was  
11 enacted by the Commercial Spectrum Enhancement Act  
12 in 2003. I've worked on both the ADBS1 and ADBS3  
13 auctions, and partnered with federal agencies to  
14 make sure that the transition was as smooth as  
15 possible, and that they were fully compensated for  
16 their work. This -- this Co-Chair will be  
17 focusing on, how do we improve the SRF by  
18 providing greater incentives to the agencies,  
19 repurpose Spectrum for commercial use, both on  
20 exclusive use or shared basis.

21 We'll be looking at a couple of issues, like  
22 reimbursing agencies that are not currently



1 eligible for reimbursement, covering the long-term  
2 cost for sharing, replenishing the fund, and  
3 perhaps expanding some of the use, as well as  
4 assessing some of the studies that were funded by  
5 the Spectrum Pipeline Act in 2015, as well as  
6 other improvements that the CSMAC members may  
7 have. So, turn it over Mariam, the -- maybe talk  
8 about the structure of the committee and the  
9 timing of engagement. Mariam?

10 MS. SOROND: Yeah, thank you, Patrick.  
11 I'm going to be really looking forward to working  
12 with you. And just a note on this subcommittee is  
13 that it -- the work will be staggered, so  
14 basically when Subcommittee 4 finishes its work in  
15 July -- in Spring of 2023, we will kick off  
16 Subcommittee 1. So, for all of you who are eager  
17 to see all the good work that's coming up, we're  
18 going to have to wait until next year. But other  
19 than that, look forward to -- to this work.

20 MS. RATH: Great. Thank you both. Any  
21 questions for either of them right now? Anyone  
22 want to volunteer to be on the subcommittee, even

1 in advance, that's fine. You can do that, just  
2 send Antonio your names.

3 So, next we have the 6G and beyond, and the  
4 Co- Chairs are Reza Afefi and Carolyn Khan, and  
5 Carolyn is going to talk about how the committee  
6 -- that subcommittee is going to move forward.

7 MS. KHAN: Great, thanks Charla. So,  
8 Reza and I are -- we're looking forward to working  
9 with all the new CSMAC members and also the  
10 returning members on this important topic of 6G  
11 and beyond. So, some background as provided by  
12 NTIA, research and planning is well underway for  
13 6G. 6G is expected to be the next major evolution  
14 of commercial wireless technology, and as the  
15 commercial -- as the U.S. interest in 5G -- the  
16 interest for the U.S. to be the world leader in  
17 5G, this is expected to only increase for 6G. So,  
18 we want to get started early, and really work to  
19 lay down the foundation for success for the U.S.  
20 as a leader in 6G.

21 So, our question is that NTIA is seeking input  
22 on 6G use cases. Importantly, NTIA would like

1 CSMAC to consider use cases beyond traditional  
2 wireless communications, including safety, sensor,  
3 radar, space, and other scientific applications,  
4 and address 6G's potential impact on federal  
5 government users.

6 When considering Spectrum bands that could be  
7 used for 6G, NTIA has observed that terahertz  
8 bands have been identified for potential use. So,  
9 they would like to ask us, how would such use  
10 impact government users in that range, and what  
11 recommendations could be made to help prepare for  
12 this, and are there other Spectrum bands that  
13 might be appropriate for 6G and beyond use? So,  
14 we will be kicking off shortly and getting started  
15 with collecting contributions from the  
16 subcommittee, potentially conducting interviews,  
17 analyzing information, and iterating on that as a  
18 group. So, really looking forward to that, and  
19 yeah. Back over to you, Charla.

20 MS. RATH: Thanks, Carolyn. Any  
21 questions for Carolyn at this point? And just as  
22 a reminder, Mariam mentioned that the SRF

1       subcommittee isn't beginning until next year, but  
2       all of the rest of the committees will actually be  
3       forming and starting to have meetings after this  
4       meeting. So, in any event, over to you, Jennifer,  
5       for the following two subcommittees.

6               MS. MANNER: Thank you, but I just see,  
7       Karl Nebbia raised his hand.

8               MS. RATH: Oh, he did. Okay, sorry  
9       Karl. Sorry, I didn't mean to -- didn't mean to  
10      miss you.

11              MR. NEBBIA: No problem. I just wanted  
12      to be clear whether this group is going to focus  
13      on government use of 6G, and therefore impacting  
14      government capabilities, or talking about the  
15      impact of commercial 6G on government operations,  
16      particularly up in the terahertz area.

17              MS. RATH: So, that -- that's actually a  
18      really good question, and I guess that is  
19      something -- Carolyn, I don't know whether you've  
20      had, you know, a chance to sort of think through  
21      those (inaudible), but it also is a question that  
22      we can, you know, go back to Charles, and sort of

1 talk to, you know, talk to NTIA about how they  
2 want us to form a question.

3 Because, you know, I was viewing it primarily  
4 as, you know, government, you know, government use  
5 of these technologies, but in a way Karl,  
6 government use of these technologies just  
7 naturally sort of also overlaps with the potential  
8 of the -- you know, using commercial technologies,  
9 too. So, I think it might be hard to separate  
10 them out, but I think that is something we can  
11 talk to NTIA about for further guidance. And  
12 Charles, I don't know whether you want to say  
13 anything right now, or that would be something we  
14 can, you know, take offline. And Carolyn, also,  
15 if you've got anything to add to that.

16 MR. COOPER: Yep, so this is Charles.  
17 We're making notes of this, and of course we're  
18 going to have a, you know, besides our Designated  
19 Federal Officer, we'll also have an NTIA  
20 individual staff member assigned to each committee  
21 as well that can take back questions that can come  
22 back to NTIA. So, we're noting it, and appreciate

1 the question, Karl.

2 MS. RATH: Thank you. Any -- any other  
3 questions for Carolyn, or others? All right.  
4 Now, over to you, Jennifer.

5 MS. MANNER: Thanks so much, and I'm  
6 pleased to introduce, right now we have one  
7 Co-Chair, but we will have two Co-Chairs of the  
8 Electromagnetic Compatibility Improvements. The  
9 second chair we're still finalizing, but in the  
10 meantime, I'd like to turn it over to Tom  
11 Dombrowsky to perhaps give a little bit of thought  
12 on this question.

13 MR. DOMBROWSKY: Does this mean I get to  
14 talk twice as much, since I'm just one Co-Chair,  
15 or does it --

16 MS. MANNER: No.

17 MR. DOMBROWSKY: Okay. So, my subgroup  
18 is going to be located -- the Spectrum  
19 environment, the fact that it's becoming more and  
20 more congested. We have Spectrum sharing, and  
21 there's greater and greater use of the Spectrum  
22 across the board, so we really need to figure out

1       how we can improve EMC between, whether federal  
2       and commercial, federal and federal, commercial  
3       and commercial, et cetera, as all the folks at  
4       home on this committee you're well aware, we've  
5       had never-ending battles at the edge of services  
6       between different parties, and I won't name names,  
7       but everybody knows those names, and what issues.  
8       In fact, we've actually had stuff making it into  
9       the nightly news, which I didn't think would ever  
10      happen in my career, so. Clearly this is sort of  
11      a hot, hot issue. I think we have four issues at  
12      least as a starting point that we were going to  
13      address, since that's what's been tasked to us,  
14      but I also welcome other ideas as we get the group  
15      up and running, and hope to have broad  
16      participation from everybody in the committee on  
17      the group.

18             So, the first issue is really about radar, and  
19      how radar and other systems can better coexist in  
20      cochannel, non- cochannel areas. Folks that have  
21      been involved in CBRS, or in the lower 3 gigahertz  
22      efforts, where we had radars for the feds, and we

1 had the commercial interest in there. So, we've  
2 done some work there and looking at that, so I'm  
3 hoping we have some lessons learned and things  
4 that we can do to improve the process going  
5 forward, because I do think we have other bands,  
6 1.3 gigahertz, even lower than the 3 gigahertz  
7 bands, and some other places where we had radar  
8 issues, that have coexistence issues coming  
9 forward.

10 In addition, we have the second point, it's  
11 statistical risk-based analysis techniques.  
12 Because we're getting more congested in the  
13 Spectrum realm, we can't just sort of say point A  
14 to point B, let's look at the interference  
15 analysis, do a link budget, when you figure out  
16 real quickly. And instead, we're really needing  
17 to look at more statistically based approach. The  
18 FCC has started down that path, NTIA has done that  
19 for years, but I think the question to the  
20 committee is really to figure out, how can we  
21 improve on that, how can we better use those  
22 techniques? Especially when we're looking at



1 operational impacts to the federal systems. So, I  
2 think that's a really important and a very timely  
3 question as well.

4 In relationship to that, one of the inputs to  
5 sort of looking at a statistical based analysis  
6 is, propagation modelling. We keep pushing into  
7 new and different bands, there's not a lot of  
8 propagation models as we get into other bands and  
9 other uses of bands that have never been modelled,  
10 so I think from my perspective, you know, maybe  
11 going on ITS. We're calling on other experts to  
12 look at propagation models and how we can improve  
13 and or increase different capabilities of  
14 propagation models that can plugged into these  
15 statistical based analysis, or other analysis.  
16 This is a very big and important point, and just  
17 as one example, so when we moved in the millimeter  
18 wave for mobile, there was no propagation modeling  
19 available there, because no one had really looked  
20 at mobile use at millimeter waves. So, another  
21 important and timely question.

22 And then the final one was, what role should

1 NTIA play for each of these interference  
2 scenarios?

3 So, those are the four main points, and I'm  
4 looking forward to working with everybody, and  
5 again, I hope others will join in and help us to  
6 look at these, because I think they're really  
7 interesting questions. Back to you Jennifer.

8 MS. MANNER: Thanks so much, Tom. Thank  
9 you. Does anyone have any questions for Tom? I  
10 see Andrew Roy.

11 MR. ROY: Thanks, Jennifer. Sorry  
12 Jennifer.

13 MS. MANNER: Oh, no, please go ahead.  
14 And then I was going to say, Dale will go after  
15 you.

16 MR. ROY: Okay. So, I did have a  
17 question. So, government radar bands, obviously  
18 we all think radars about the spinny heads  
19 sometimes you see at airports on the ground, but  
20 there's also the aeronautical, maritime, and even  
21 space, and go down to HF and you go all the way up  
22 to higher. So, are we looking at every single

1 possible option that there could be? It gives us  
2 a lot of options, but also when you start talking  
3 statistical analysis and propagation, it can be a  
4 varied environment as well. So, I was curious if  
5 there was thoughts on, is there going to be a  
6 particular focus or aspect we're -- we're not  
7 going to consider at this point?

8 MR. DOMBROWSKY: I mean, I'll go first,  
9 and then I'll defer to NTIA on those too  
10 (inaudible). From my perspective, I think the  
11 work of the committee is to -- to raise these  
12 questions, and sort of try and figure out how we  
13 can manage it. I mean, usually when you have a  
14 broad question like this, if you try and answer  
15 every single possibility, you'll never get  
16 anywhere. So, I think, from my perspective, we  
17 have the question -- I think your question's a  
18 valid one, and I think it's one we should discuss  
19 in the subcommittee and see if there's a way to  
20 narrow it in the most useful way. And I don't  
21 know if Charles or Jennifer or Charla had other  
22 thoughts on that.

1           MR. COOPER: Yeah, this is Charles. I'm  
2 going to -- again, like we did with the 6G  
3 question. I'm going to take this one back as  
4 well, and again, we're going to have an NTIA staff  
5 member assigned to this subcommittee as well that  
6 can certainly help with -- with the questions.  
7 Certainly, from an engineering perspective, I  
8 appreciate it when it is scoped out, so I wouldn't  
9 be surprised that if there are some bands that are  
10 flagged of more interest than other bands. I  
11 think that's a fair question.

12           MS. MANNER: Thank you. So, just moving  
13 on. Dale Hatfield has a question, please. Dale.

14           MR. HATFIELD: Actually, it's more of a  
15 comment. And my comment really applies to both  
16 DMI and the 6G. And that is talking about  
17 enforcement. I think it's very important that  
18 very early on we talk about enforcement. Because  
19 without enforcement -- without enforcement, rules  
20 are valuable -- are not valuable, unless it can be  
21 enforced. If they're not enforced, there's  
22 essentially no rule. That leads to lawlessness,

1 and with the environment that we're leaving --  
2 living in today with people who can try to do bad  
3 things, I think it's awfully important that we  
4 think about enforcement, including the detection,  
5 identification, location, reporting, mediation,  
6 and remediation of interference incidents. Thank  
7 you.

8 MS. MANNER: Thank you, Dale. I think  
9 those are wise words, and ones that certainly are  
10 -- I'm sure, Co-Chairs will take to heart. Tom, I  
11 don't know if you have anything else to add?

12 MS. RATH: Actually, it looks like  
13 Jennifer has her hand up too.

14 MS. MANNER: I know -- I know, I was  
15 going to Tom just as Co-Chair, just in case,  
16 Charla.

17 MS. RATH: Yeah.

18 MS. MANNER: I was going to call on  
19 Jennifer after that, if that's okay.

20 MR. DOMBROWSKY: Nothing to add for me,  
21 and Dale and I have talked about enforcement for,  
22 again, longer than I'd like to admit, so.

1 MS. MANNER: Okay, thank you. And then  
2 now, of course, to Jennifer Warren, please.

3 MS. WARREN: Right, you now have to  
4 differentiate which Jennifer, so, thank you.

5 MS. RATH: Good point.

6 MS. WARREN: So, I had my hand raised  
7 before Dale's comment, but I want to second Dale's  
8 comment, take the opportunity to do so about  
9 enforcement. I couldn't agree with him more, so  
10 I'm glad to hear that that will be part of the  
11 discussion. But my comment goes back to Tom's  
12 introduction of this item, and one of the issues,  
13 or the first issue was radars, and connecting it  
14 to the comments that Charles made in his opening  
15 remarks about the process already in place for 3.1  
16 to 3.45, and that there's a process in place that  
17 then NTIA will look at. Can I assume from that  
18 discussion, then, that part -- at least that band  
19 is not part of this discussion, so that we're not  
20 duplication resources and efforts with a process  
21 that's already well underway? Thank you.

22 MS. MANNER: Thank you, and I look to

1 Charles on that. Charles?

2 MR. COOPER: Yeah, had again the usual  
3 fumble for the mute key, here. So, thank you  
4 Jennifer. Yep. I think, you know, in line with  
5 the other -- other ones, we're going to take that  
6 back. But it's certainly an interesting point and  
7 a wise point you raise, Jennifer. Thank you.

8 MS. MANNER: Thank you so much. Mark  
9 Gibson has his hand up next. Mark, please.

10 MR. GIBSON: Hi, yes. And I also note  
11 that in previously CSMACs there were five marks.  
12 So, now I think that I'm the only one now, so I'm  
13 happy to pass the torch to the Jennifers.

14 But I guess I have a question that parses  
15 maybe a little too much, so if we want to wait  
16 until we get into the actual meetings that's fine.  
17 But the first question says, how can radar and  
18 other systems better coexist in cochannel and  
19 non-cochannel relationships. And I presume that  
20 means adjacent, whatever. But the -- so, it seems  
21 the focus is on radar and other systems, as  
22 opposed to other systems coexisting with radar.

1       So, am I reading too much into this? Is the focus  
2       of this trying to make radar systems coexist  
3       better, or other systems better coexist with  
4       radar, or both?

5               MS. MANNER: So, I'm going to look --  
6       I'm channeling Charles, if you can tell, but I  
7       think he's probably going to say he's going to  
8       take this back and we'll have someone who can dig  
9       into this. So, I think at this point, we should  
10      probably save these for the first meeting that Tom  
11      and his mystery Co-Chair has, if that's okay.

12             MR GIBSON: All right. That's fine.

13             MS. MANNER: And then Dale, you needed  
14      the floor again, please.

15             MR. HATFIELD: Oh.

16             MS. MANNER: Dale, we can't hear you,  
17      you're on mute. Dale, we still can't hear you, I  
18      think you're on mute.

19             MR. HATFIELD: I -- I think I put my  
20      hand up by accident, which I profoundly apologize.

21             MS. MANNER: No worries about that. So,  
22      unless there's any other questions, I'm going to



1       move onto the next subcommittee, which is  
2       Ultra-Wideband. Our Co-Chairs there are Paul  
3       Margie and Dennis Roberson, so I thank you both,  
4       and I'll turn the floor over to Dennis, please.

5               MR. ROBERSON: Yes, so I'm happy to  
6       introduce by far the most exciting question that  
7       has been posed to the CSMAC. Obviously, we are  
8       enthusiastic about it, and I say that a little  
9       tongue-in-cheek, but not completely, because  
10      Ultra- Wideband has been something of a neglected  
11      technology, not studied by any organization that I  
12      know of, as you most perhaps all know in our long  
13      tenure with the TAC, and we certainly didn't ever  
14      cover it there, and it's not been covered in CSMAC  
15      in a decade either. So, I think it's really an  
16      interesting topic to jump into. The concerns from  
17      the write-up seem to be around the proliferation  
18      of Ultra-Wideband and the waivers that are coming  
19      in that may collectively cause damage to -- to  
20      systems that are important to the government. We  
21      would like to have -- as is so often the case with  
22      others, we would like to have more clarification

1 on exactly what the concerns are, what  
2 applications, what frequencies and the like. But  
3 that will come, I'm sure, in due course. Because  
4 Charles is going to take that back and get it  
5 (Laughter) taken care of. Good smile, Charles.

6 That's the nature of the topic, the specifics  
7 -- there are actually four specific questions, and  
8 those relate to the potential modifications of the  
9 UWB rules that would make it a more valuable and  
10 viable technology.

11 Secondly, federal bands without the FCC  
12 involvement that -- where we could make changes to  
13 NTIA rules, independent of the FCC, and what those  
14 might look like.

15 The third was minor potential changes that  
16 could be explored in the areas of power limits,  
17 definitions, and application categories, that  
18 would have impact from an international standpoint  
19 -- international harmonization standpoint. So,  
20 that would be interesting.

21 And then finally, NTIA's modifications of  
22 restrictions, or including new ones, that would

1 expand existing frequency bands.

2 So those were the four areas of focus for the  
3 start, and I'm sure we'll evolve that as we get  
4 into the discussions. I am -- I'm really pleased  
5 to be co-chairing this with Paul Margie, because  
6 he is a very hard worker. I -- we had an initial  
7 meeting about the topic, and we've moved along to  
8 establish direction, which he will talk about.

9 But I talked to him about pulling together a  
10 general plan about what we ought to do, and what  
11 he'd provided was an outline for our final  
12 document. So, we already have the outline for the  
13 three chapters with a dozen subsections that we  
14 will be covering as a start out draft.

15 So, having someone that aggressive as your  
16 partner is an absolute delight. And with that,  
17 let me turn things over to Paul to take us home on  
18 this topic.

19 MR. MARGIE: Thanks for that, and if,  
20 partly that's because NTIA spooked me by saying  
21 that we have to go first and get this draft, get  
22 this document done before all the others, so I

1 think Dennis and my goal is to be really focused  
2 here. It is a broad question, but I think we can  
3 produce a document that is useful in the time  
4 period that's given to us.

5 And so, I thought what I would do is just  
6 describe some initial thoughts as to the kind of  
7 work so that people can decide if they want to  
8 join us, so you have some specificity in doing so.  
9 I think we're going to need engineering technical  
10 help as well as legal policy help to do a good job  
11 for NTIA here to answer their four questions.

12 And so, I think, one, we're going to take a  
13 look at the effect of a period of waivers, right.  
14 We adopted these rules back when Bryan Tramont,  
15 for goodness's sake, was on the 8th floor of the  
16 FCC a long time ago. We haven't changed them  
17 since then. There's been a long period of  
18 waivers, especially since 2010. We have to stitch  
19 those together and figure out what the real rules  
20 on the ground are now from this kind of crazy  
21 quilt of waivers to understand what the  
22 environment is.

1           Number two, the expectations of what  
2           Ultra-Wideband is and is useful for on the ground  
3           now are very different than they were in 2001 and  
4           2002, and the type of applications that are there  
5           are very different. Back then, I think we were  
6           looking at ground penetrating radar and kind of  
7           wireless ethernet, you know, as the way that  
8           Ultra-Wideband was going to be. Now we're seeing  
9           location services and much more commercial  
10          operations that are very, very different. So, we  
11          want to have some invite in or some talks, some of  
12          the Ultra-Wideband people to understand how those  
13          changes have made, and I think it'll be a really  
14          good opportunity to hear about those from the  
15          people that are building them now so that we give  
16          a recommendation that's based on the real world.

17          Third, and really critically is going to be  
18          discussions with government users to understand  
19          both government Ultra-Wideband use and the effect  
20          of commercial Ultra-Wideband use on the government  
21          because I really want to take it from what we've  
22          been hearing from NTIA and DoD and other is about.

1 We have to look at this both as government as user  
2 and government as neighbor. And so, we're going  
3 to try to do both of those by talking to people.

4 There are going to be a consideration of legal  
5 and policy users related to the NTIA question  
6 about the relationship between what the FCC does  
7 and what NTIA does. That's not an engineering  
8 question, but that's a legal policy question to  
9 try to figure out, do they have to do it in  
10 tandem, you know, what's the relationship with  
11 NTIA rules over commercial for when they are, when  
12 their government bands are not. So, we've got  
13 some interesting legal questions as well as  
14 engineering.

15 So, and look, I think bottom line, the fact  
16 that NTIA gave us as one of their four questions  
17 that Ultra-Wideband was a concern, the fact that  
18 it was chosen as one that they needed answered too  
19 quickly, and the big increase in Ultra-Wideband  
20 devices means that something is afoot at the  
21 Circle K here on Ultra-Wideband. And so, I would  
22 encourage you to join us. It hit so many bands,

1       too. I think it'll be a good experience. And as  
2       I said, we're going to try to be really focused  
3       and get this document out rapidly. Thanks.

4               MS. MANNER: Thank you, Paul, and  
5       someone who worked with Bryan and Paul and  
6       Ultra-Wideband just a couple of years ago, it has  
7       a very long history, and I can second that, Paul  
8       Margie. I'm used to make the other advisors look  
9       pretty bad because he was a really hard worker,  
10      and good, too, not just hard working.

11             So, with that, any questions for Paul and  
12      Dennis? Okay. Well, I encourage everyone to sign  
13      up and participate in the work in the  
14      subcommittee. That work is so critical to our  
15      success, and with that I'm going to turn it over  
16      to Charla for the next part of our agenda.  
17      Charla, please.

18             MS. RATH: Great. Thanks, Jennifer.  
19      And I just have to say though that Paul you should  
20      actually be writing the PR for all the  
21      subcommittees because you made me want to join it  
22      so excellent, excellent. I think you all need to

1 take some lessons from that in terms of getting  
2 people to join your subcommittees.

3 In any event, I think before we move on to  
4 public comment, I just want to make sure that  
5 there aren't any questions from CSMAC members on  
6 any of the subcommittees or anything you might  
7 have forgotten to ask Charles before. And it does  
8 look like we have a couple of questions. Tom,  
9 you're first step, Tom Dombrowsky.

10 MR. DOMBROWSKY: Yeah, just wondering.  
11 I know you asked us to sign up for the committees.  
12 I didn't know as a Co-Chair wondering when we're  
13 going to get our list of people that have signed  
14 up so we could get rolling. I think that's the  
15 question I had.

16 MS. RATH: Antonio, I think you're  
17 working on that list, aren't you?

18 MR. RICHARDSON: Yes, that's correct. I  
19 was hoping to have it out to you guys here this  
20 afternoon here. Definitely you'll have it by  
21 Monday who we have so far are, which groups. And  
22 also again, hopefully I get a whole lot for Paul



1 here to join up really quick, but, yeah, so if you  
2 guys would send me which groups you would like to  
3 sign up with, I'd appreciate it. I've already  
4 received about 10 or 12 emails or so, probably a  
5 couple of more, but definitely by at least 10 or  
6 12. So, hoping to, and if you want to go across  
7 various groups, that's fine too. It could be a  
8 lot of work though I have to admit, you know, and  
9 I'm sure you all know that. But if you would,  
10 please just send me a request, and now I'll get  
11 the current list out to the co-chairs of who they  
12 have right now signed up. Now, like I said, I'd  
13 have that out by Monday at the latest.

14 MS. RATH: Yes, thanks, Antonio. And  
15 just to sort of underscore Antonio's point, for  
16 new members, you should consider, you know, more  
17 than one, you know, want more than one  
18 subcommittee but keep in mind that the  
19 subcommittees do, you know, they meet frequently,  
20 and but I would still urge you not to just limit  
21 yourself to one, and, you know, it is also one of  
22 the reasons why NTIA actually did stagger, you

1 know, two of the questions so that the workload  
2 would be, you know, would be a little bit more  
3 reasonable. But please do send Antonio your names  
4 and hopefully they will be able to get started  
5 pretty quickly.

6 Mark, I think you were next, Mark Gibson, and  
7 I don't have to say Mark Gibson anymore. Great,  
8 Mark, just Mark.

9 MR. GIBSON: Thank you. I wanted to go  
10 back and ask a question about the SRF working  
11 group or subcommittee. Is it fair gain to include  
12 funding of NTIA activities necessary to port  
13 support SRF? I know that that's not, it's not  
14 covered in the Act. The Act covers only agencies  
15 that have spectrum assignments that are subject to  
16 being relocated. But it occurs to me that NTIA  
17 does a whole lot of work to support the SRF  
18 activities and a lot of us dealt with that, you  
19 know, for AWS, for example.

20 So, I'm just wondering if it's, if that's  
21 possible, too. I know it seems self-serving for  
22 NTIA committee to, you know, go fund NTIA, but I

1 think that's something that's sort of lacking in  
2 the Act. So, is that something that we can be  
3 looking at in that discussion?

4 MR. WELSH: Yeah, Mark, this is Patrick.  
5 Before Charles Johnson, because I know he will  
6 have some thoughts on this, you know, as a coach  
7 here I definitely think that should be on the  
8 table, that's been one of the bottlenecks.

9 MR. GIBSON: Yes, good.

10 MR. WELSH: To, you know, getting the  
11 most value out of the SRF. So, I hope that the  
12 members can look at that and that way we don't  
13 have to put Charles on the spot.

14 MR. GIBSON: I know, great.

15 MS. RATH: Next up, I think, Louis, you  
16 have your hand up?

17 MR. PERAERTZ: Yeah, excuse me. And  
18 Antonio, you will be getting at least one of my  
19 subcommittees that I'd like to join this  
20 afternoon. My question is, does it have to be  
21 decided today? There's another subcommittee I'm  
22 interested in, but I haven't quite, I might not be

1 able to give you that, you know, decision today.

2 Can this wait until next week or sometime?

3 MS. RATH: Yeah, I can answer that  
4 question. Yes, absolutely.

5 MR. PERAERTZ: Okay. And then the last  
6 question since this is the first time I've been  
7 part of the CSMAC, but I'm part of other advisory  
8 committees like one at the FCC and everybody does  
9 things differently, I think. So, procedurally if  
10 I have attendance issues, who should I be  
11 contacting? Should I be sending an e-mail to all  
12 36 people on this call or to just you and  
13 Jennifer?

14 MS. RATH: Jennifer, me, and Antonio.

15 MR. PERAERTZ: Antonio.

16 MS. RATH: Yeah.

17 MR. PERAERTZ: Okay, got it. Thank you.

18 MS. RATH: And actually, I think one of  
19 the things that we're probably going to talk to  
20 NTIA about is actually, you know, you can never  
21 schedule so that everybody can make a meeting, but  
22 to talk about how to schedule, and at least, you

1 know, get some opportunity to hear who can or  
2 can't make specific dates. But we can talk about  
3 that offline.

4 MR. PERAERTZ: Okay, thank you.

5 MS. RATH: Karl, you have a question?

6 MR. NEBBIA: Yeah, I just wanted to be  
7 clear. I understand that group, Working Group 1  
8 is starting later, certainly after number 4, but I  
9 wasn't clear on 2 and 3, when they were starting  
10 and whether we could actually get each of the  
11 co-chairs broken out a list of things that they  
12 see it underneath these subjects that we could get  
13 that and some sort of written form and then it  
14 also calls Charles' clarifications on the  
15 questions have been asked. That would certainly  
16 help me determine which ones that I actually  
17 wanted to sign up for. Thanks.

18 MS. RATH: Yeah, and just to answer the  
19 first part of your question. Three of the  
20 subcommittees are beginning immediately. The  
21 Ultra-Wideband, which will be the first reporting  
22 out there, NTIA would like to have a report out

1       within a year, 6G and beyond, and the electromatic  
2       compatibility. The only one that's being delayed  
3       and staggered is Spectrum Relocation fund to pick  
4       up when, you know, approximately when UWB is  
5       ending so that it just gives the numbers a little  
6       bit more, you know, ability to participate in all  
7       of the committees' subcommittees.

8               But, you know, second part of your question, I  
9       will, you know, I think we can ask the  
10       subcommittees, you know, how their subcommittee  
11       co-chairs, how they're planning on handling it,  
12       and also, I think, just, you know, to Charles,  
13       too, for a little bit. Does anybody have any  
14       thoughts on that?

15               MR. DOMBROWSKY: You know, jump in  
16       without a hand raise, but I mean I think the  
17       questions that were, that I went through, I think  
18       you can share them with people, as far as I'm  
19       concerned. I have no trouble with that being  
20       shared, and frankly I thought they had been shared  
21       so people had an idea what they were signing up  
22       for.

1 MS. RATH: Yeah. no, the full questions.  
2 And Karl, I don't know if you were asking  
3 something different than the document that we sent  
4 around a couple of days ago that has the full list  
5 of questions on them. Actually, it was last week.

6 MR. NEBBIA: Yeah, I, to be honest with  
7 you, I've not seen that document so.

8 MS. RATH: Okay. We'll send it around  
9 again. I think it was either Wednesday or  
10 Thursday of last week, and it's from me. So,  
11 yeah, that actually answered, may answer your  
12 question?

13 MR. NEBBIA: Hey.

14 MS. RATH: That's good.

15 MR. NEBBIA: I'll raise my hand up again  
16 when all the work's done, so.

17 MS. RATH: Anything else before we move  
18 on to public comment? Jennifer, anything from  
19 you? All right, so we're now in the portion of  
20 the meeting where the public who, you know, or are  
21 dialed in have an opportunity to ask questions.  
22 Antonio, I don't know if there is, is there a way

1 for you to manage that, or, you know, because I  
2 can't see if someone wants to ask a question.

3 MR. RICHARDSON: Currently, yes, I am  
4 managing that, and right now I don't see anything.  
5 Actually, I would just ask if anyone from the  
6 public wants to make a comment to go ahead on and  
7 just start speaking, and we'll just recognize  
8 them, but we ask that you identify yourself and  
9 then go from there, please.

10 MS. RATH: Is there anything we need to  
11 do to come off mute, or are they?

12 MR. RICHARDSON: No, I'm sorry, I said  
13 that, they're not muted right now. Actually, it's  
14 been pretty good. They've, we've had no problems  
15 doing this and crossing my fingers now.

16 MS. RATH: Excellent, great.

17 MR. RICHARDSON: But I'm hoping we get  
18 something here, maybe. If we don't, again, you  
19 know, the public have an opportunity, they can  
20 send questions to me at arichardson.ntia.gov, and  
21 I will pass them on or something more to that  
22 effect. But yeah, right now I'm not seeing any



1 movement out there, from the public that is.

2 MS. RATH: Okay, well, I think we should  
3 move on and if somebody breaks through while  
4 Jennifer is doing her closing remarks, we'll just,  
5 we'll deal with that because I know sometimes it  
6 can be a little bit cringy.

7 MR. RICHARDSON: Let, I'm sorry, let me  
8 just do a check here, make sure everything is fine  
9 there. If I could have Rich Orselak, please,  
10 speak for a moment, I'd appreciate it. Rich  
11 Orselak, do you hear me? Let's try one more.  
12 Rebecca, can you hear me? Don't be afraid,  
13 Rebecca. I won't say the last name. Wow, this is  
14 unusual. I'm not feeling any movement or, and  
15 anything right now.

16 MS. RATH: There's no need.

17 MR. SHARKEY: Hey, Tony.

18 MS. RATH: Yeah, there you go.

19 MR. SHARKEY: Tony, can you hear me?

20 MR. RICHARDSON: Yes.

21 MR. SHARKEY: This is Steve. I don't  
22 know if this passes the test or not, but, you can

1 hear me and I can hear you.

2 MS. RATH: If you're on the phone, it  
3 passes the test. Excellent Steve, thank you.

4 MR. RICHARDSON: Yeah, actually Steve  
5 maybe in another way. I just got a text, someone  
6 from the public is saying something, but we, we're  
7 not hearing them. Give me a second to do a check  
8 here to find out what might be happening here,  
9 give me one second.

10 (Pause)

11 MR. RICHARDSON: Are you guys hearing me  
12 on the phone?

13 SPEAKERS: Yes, yeah, yes, yeah, yes.

14 MR. RICHARDSON: We can hear each other,  
15 we can't hear you.

16 MS. RATH: Actually, I could hear both,  
17 we can hear each other, and I could hear you,  
18 Antonio. Were you just calling in on the bridge?

19 (Pause)

20 MR. RATH: I can't hear you anymore.

21 MR. RICHARDSON: So, I've actually lost  
22 everyone on the bridge here. I would actually

1 have to go back and connect. Not quite sure what  
2 was going on there but let me try and do another  
3 connection here really quick. You guys are  
4 hearing me on the Teams, correct?

5 MS. RATH: Yes.

6 MR. RICHARDSON: Okay. about this guy.

7 MS. RATH: Sorry about this, guys. If  
8 we can just wait a little patiently.

9 (Pause)

10 MS. RATH: Antonio, are you still there?

11 MR. COOPER: We can give it another  
12 minute or so. I just saw another number pop in on  
13 the Teams here.

14 MS. RATH: Okay. I was just going to  
15 ask.

16 (Pause)

17 MR. RICHARDSON: Yeah, I'm not sure  
18 what's going on here with Teams. This is, it's  
19 not merging both calls though.

20 MR. KHLOPIN: Hey, Antonio, it's Derek.  
21 But if they get back connected by a voice, would  
22 one option be to offer your email address again

1 and they could.

2 MR. RICHARDSON: Okay, you might hear a  
3 little bleed over for a minute. Did anyone hear  
4 Christine?

5 MS. RATH: No. We only hear you,  
6 Antonio. And there's a hand raised from  
7 703-336-9247. I don't know who that is.

8 MR. RICHARDSON: Okay. It seems like no  
9 one on the public side can hear. We can hear  
10 them, however they can't hear us speaking here, so  
11 I'm going to ask anyone from the public, if you  
12 would please email me at arichardson, that's  
13 A-R-I-C-H-A-R- D-S-O-N, at ntia.gov with your  
14 questions and I will, and that way it will, we'll  
15 get some type of response out to your questions  
16 here and go from there.

17 Again, I just received a note, so again, the  
18 email address is arichardson, that's  
19 A-R-I-C-H-A-R-D-S-O-N, at ntia.gov. Also, if you  
20 have a public notice, you'll see my email address  
21 in there just in case, and you can, again email  
22 me, and I will make sure that your questions are

1 answered from the committee. If you have a  
2 question to a direct person, again, just let me  
3 know and I will ensure that your question is  
4 answered. And again, my apologies. I'm not quite  
5 sure what happened here, but we'll get an answer  
6 out for you guys. Thank you.

7 MS. RATH: Thanks, Antonio. Jennifer, I  
8 think that means moving back to you to, for  
9 closing remarks.

10 MS. MANNER: Thank you so much, Charla.  
11 I did confirm I just got an e-mail from someone  
12 confirming that they've been cut off so, just an  
13 FYI. So, with that, I do want to say it's an  
14 honor to be able to co-chair with Charla this  
15 year's, on this term's CSMAC with such critical  
16 spectrum policy issues that will help the  
17 government as they start to move forward into the  
18 future on critical spectrum issues. And more  
19 importantly I'd say it's really an honor to be  
20 able to work with the members of the CSMAC. I've  
21 known many of you for a long time, and some of you  
22 I'm just meeting today. I think we're going to

1 have some great conversations and discussions as  
2 we work through these critical issues.

3 Finally, I'd like to thank Assistant Secretary  
4 Davidson, Charles Cooper, Antonio Richardson,  
5 April Delaney, Derek Khlopin, and the rest of the  
6 NTIA staff for supporting the important work of  
7 the committee, and we really look forward to  
8 continuing our work this time and, of course,  
9 working with my co-chair, Charla Rath. And so  
10 with that, Charla, I wanted to turn it over to you  
11 to see if you have anything else to add.

12 MS. RATH: No, I think that's it other  
13 than I would love for somebody to actually add up  
14 all the years of spectrum experience of all the  
15 people on this call. It's really kind of amazing.  
16 So, thank you all and looking forward to  
17 subcommittee meetings and our next full committee  
18 meeting. Thank you very much, and also just a  
19 reminder, we all need to stay behind after the  
20 meeting closes to have our ethics briefing. So,  
21 Antonio, I guess it's over to you, we're  
22 adjourned.

1           MR. RICHARDSON: Yes, thank you and that  
2 will complete the CSMAC meeting for today and  
3 again if those out there in the public can hear me  
4 again, by all means please email me, and like I  
5 said, we'll get answers for you, guys. And at  
6 this time, we'll consider it adjourned and just  
7 again, just to CSMAC members, please stay on. And  
8 if I have Mr. Eli Sherlock, if you're on the call.

9           MR. SHERLOCK: I'm here, yeah.

10          MR. RICHARDSON: Okay, good. So, I'm  
11 going to disconnect the public now and then you  
12 can go ahead and start the ethics briefing.

13          MR. SHERLOCK: Okay. Just let me know  
14 once you've disconnected the public. Antonio.

15          MR. RICHARDSON: Okay.

16          MR. SHERLOCK: This, yeah, at this  
17 point.

18          MR. RICHARDSON: Okay. Go forward now.

19          MR. SHERLOCK: Okay. Hi, everyone. My  
20 name is Eli Sherlock. I am an Ethics Attorney for  
21 the Department of Commerce. As part of your  
22 advisory or as a special government employee

1 advisory committees, you have been selected to  
2 provide CSMAC and thus provide the Department of  
3 Commerce overall with consensus advice based on  
4 the personal expertise that you carry.

5 The concern with doing that is we want to make  
6 sure that you do not inadvertently give any advice  
7 that could lead to, you know, benefiting yourself  
8 and so for that reason SGEs are considered partial  
9 government employees for the purposes of the  
10 ethics rules applicable to federal employees,  
11 which means that some federal ethics rules are  
12 going to be applicable to you as you move forward  
13 in the enactment of the responsibilities of your  
14 position. So, I'm going to take this time to go  
15 over what those duties are. If anyone has a  
16 question throughout, you can feel free to just  
17 unmute yourself and ask away.

18 Okay. So, first off, as I'm sure you're all  
19 aware, the financial conflicts of interest are  
20 applicable to you. That's why you are responsible  
21 for filling out F450s, which are financial  
22 conflict of interest disclosures. The main rule



1 is that you cannot participate in any federal  
2 matters, including by giving advice or  
3 recommendations where you or your spouse, minor  
4 child, partner, household members, or employers  
5 have financial interest.

6 There are some exceptions to this general  
7 rule, including situations where we're aware that  
8 you have a financial conflict, and we grant a  
9 waiver for you, but if that's the case for you, it  
10 has to be done preemptively so we have to review  
11 your conflict of interest, and then, you know,  
12 make the determination that you're going to be  
13 working on a particular matter involving a party  
14 in which you might have a financial conflict or  
15 financial interest and we'll create a waiver for  
16 you.

17 So, yeah. Again, there are other exceptions.  
18 The biggest example that I can give is that if  
19 you're going to be giving, let's say consensus  
20 advice about, you know, a contract with a specific  
21 company, or you're saying, for instance, this  
22 entity or this company provides the best services

1 in X-realm, we want to make sure that you don't  
2 have a financial interest such as, you know, stock  
3 holdings in the company that you're recommending  
4 or endorsing at that point. So, like I said,  
5 there are exceptions to that.

6 So one that I've already gone over is if the  
7 conflict of interest is covered by a waiver. If  
8 the conflict of interest stems from an investment  
9 that you have through a diversified and  
10 non-sector-specific mutual fund, mutual funds  
11 never create conflicts. If you have  
12 sector-specific mutual funds, but they're worth  
13 under \$50,000, then you can still give advice on  
14 whatever that industry is that's covered by that  
15 sector's specific mutual fund. Publicly traded  
16 stocks under \$15,000, those don't create conflicts  
17 if you're advising on specific party matters,  
18 which are matters that only affect one specific  
19 company or entity, or if you're giving policy  
20 advice that might affect an entire industry or a  
21 group of companies, and you have interests in that  
22 group of companies, but they are not more than

1       \$25,000, in any one company or \$50,000 overall.

2       Yeah.

3             Additionally, you are barred from using  
4       insider information to make investment decisions,  
5       which means that if you're aware, you know, if you  
6       have non-public information or insider information  
7       from, you know, from this position or from  
8       information that you've obtained from your work  
9       with FACA that's not public, you can't use that to  
10      make investment decisions. All this should be  
11      fairly straightforward.

12            Okay. Let's see, moving on, and again if  
13      anyone has any questions, you can just feel free  
14      to ask me. So, you want to avoid any situation  
15      where it appears that you've lost your  
16      impartiality in enacting the duties of your  
17      position while working as a committee member. And  
18      what that means is that not only can you or should  
19      you not engage in outside activities that would  
20      conflict with your, you know, duties or  
21      responsibilities for this community, but you also  
22      should try to avoid any situation where there's an

1 appearance that you are, you know, that you have  
2 lost your impartiality or that you might be biased  
3 and giving advice to this committee, you know,  
4 about a matter that you might have a personal  
5 stake in.

6 So, the general rule for this is you can't  
7 participate in a matter where a person that you  
8 have a covered relationship with is before the  
9 government as a party and your participation would  
10 cause a reasonable person to question your  
11 impartiality.

12 So, you have a covered relationship with  
13 either current or, you know, like potential  
14 employers. So, people that you're seeking a  
15 business relationship or employment-based  
16 relationship with, people who employ your spouse  
17 or your parents or dependent children, or clients  
18 of your spouse, parents, or dependent children,  
19 and recent employers and clients of up to one  
20 year.

21 So that means that if you've worked for a  
22 company within the last year, you shouldn't give

1 advice on that specific company. There is a big  
2 exception for this if you're going to be giving  
3 advice about a group of companies, and one of them  
4 is your current employer. So again, if you guys  
5 have any questions about that, you just reach out  
6 to me or reach out to the ethics attorney assigned  
7 to this committee, Jeffrey Harrington, who  
8 unfortunately was not able to make it here.

9 Again, there is an exception also where we can  
10 create a waiver if you are weighing in on a matter  
11 where there might be a conflict created by our  
12 relationship that you have with a party outside of  
13 the federal government, but the determination is  
14 made that your importance in assisting the federal  
15 government in that specific case outweighs  
16 appearance-based concerns.

17 Okay. Also while you're serving as an SGE,  
18 you cannot be a registered lobbyist, you can't be  
19 your registered foreign agent, and you can't  
20 represent someone or be compensated from someone  
21 else's representation before a federal agency or  
22 court about a matter involving specific parties

1       that you participated as an SGE. Now that is  
2       extremely unlikely to happen. In fact, it is more  
3       than likely that you guys will not be working on  
4       specific party matters which are federal matters  
5       that only impact one specific company or entity.  
6       Yeah.

7               So generally advisory committees give  
8       consensus advice on broad policy matters. So,  
9       when we're talking about matters that might impact  
10      one to find company that rarely if ever occurs.  
11      But you know, I'm telling you this just in case.

12             Let's see. So, for gifts, the general rule  
13      for federal employees is, you may not accept the  
14      gift offered from someone with matters before  
15      commerce or who's offering you the gift based on  
16      your federal position unless an exception applies.  
17      And for the purposes of that rule, a gift is  
18      anything that has value. Now in your specific  
19      situation, there are a lot of exceptions that  
20      apply, and there are a lot of people who might be  
21      offering you gifts. And for the most part that's  
22      fine. But if anyone offers you a gift or

1 something of value based on your position as an  
2 SGE for CSMAC, you should reach out to ethics to  
3 determine whether or not it would be acceptable or  
4 permissible for you to accept.

5 Okay. And honestly, that about covers it.  
6 The only other real rules that I would give to you  
7 are, if you're given access to non-public  
8 information which, for the purposes of the rule  
9 that I'm about to say, I would just assume to be  
10 any information that's given to you outside of the  
11 public meetings, you should treat that as  
12 non-public information. You shouldn't use that in  
13 your personal capacity or for your own benefit.  
14 Just hold that really close to your chest. Don't  
15 do any, like don't use it unless you have explicit  
16 permission outside the context of, you know, your  
17 work as an SGE.

18 You also cannot use federal resources for  
19 anything other than federal purposes, but for the  
20 purposes of these rules, I don't really think that  
21 you guys as SGEs are going to have access to a lot  
22 of federal resources. So generally, we're talking

1       about things like, you know, a work computer, a  
2       phone, email address, stuff like that. And I  
3       don't believe that you guys have any of that. If  
4       you've been given access to federal letterhead and  
5       stuff like that, you should not be using that, and  
6       you definitely should not use your title as a  
7       committee member of CSMAC outside of the scope of  
8       or the context of the work that you're performing  
9       for CSMAC.

10           So basically, that means that when you're not  
11       in meetings with CSMAC, you shouldn't be going  
12       around making representations and saying that  
13       you're, you know, making statements as a committee  
14       member of CSMAC, if that makes sense. And I'm  
15       saying that largely because we've gotten questions  
16       before from community members who have been  
17       contacted by journalists to ask about the work of  
18       their committee and it's outside the scope of, you  
19       know, it happens outside of their, you know, the  
20       hours of their work on the committee.

21           If that happens, if you're asked the question,  
22       you know, for whatever reason, by, you know, a



1       journalist or reporter, anything like that outside  
2       of these committee meetings, and they're asking  
3       you about the work of CSMAC or they're asking you  
4       to, you know, provide input in your official  
5       capacity as a committee member, I would try not to  
6       answer that question and just give them the  
7       contact information of your DFO, Antonio, and we  
8       can figure out what to do from there. But that's  
9       really important. You should not be giving  
10      substantive input or speaking on behalf of the  
11      Advisory Committee outside of your, you know,  
12      Advisory Committee working hours.

13             And that about covers it. There are one or  
14      two other ethics rules that apply, but they are  
15      not very likely to come up, and my understanding  
16      is you've all been given the SGE guidance that we  
17      give to everyone, so you should be able to review  
18      that and just look at all the rules that are  
19      applicable.

20             If you have any questions, you can either ask  
21      them now or you can feel free to reach out and ask  
22      us at any time, you know, and we'll answer you as

1 promptly as we can. Yeah, and that about covers  
2 it. Thanks so much for your time. If anyone has  
3 any questions, you can feel free to ask now. If  
4 not, we can move on.

5 MR. MARGIE: Hey, this is Paul Margie.  
6 I'm, as I'm new, I just want to make sure I'm  
7 understanding what you said correctly on a couple  
8 things. One is, it sounds like we can still meet  
9 with NTIA on behalf of our company or a client,  
10 even if we're serving this year. That's right.

11 MR. SHERLOCK: Yeah, so you can as long  
12 as it's not related at all to the work that you're  
13 doing for this advisory committee. And it  
14 doesn't, so, like, yeah, does that make sense?

15 MR. MARGIE: I think it does, but if  
16 there's a topic like 6G, does that mean that none  
17 of us could meet with NTIA on the topic of 6G?

18 MR. SHERLOCK: No, no, no, that's  
19 broader. So, the technical restriction is that  
20 you can't represent someone before a federal  
21 agency about a specific party matter that you  
22 participated in as an SGE. Specific party matters

1 are, it's a pretty tight legal definition. It's  
2 basically matters that you worked on well in the  
3 federal service that only affected one clearly  
4 defined party. So, a good example that I would  
5 give, and this doesn't really apply to your  
6 committee, but, you know, if your agency was a  
7 compliance enforcement agency and you are enacting  
8 an enforcement action against a company, that  
9 would be an example of a specific party matter  
10 because it only touches that one entity.

11 For the most part, you know, if you guys are  
12 working on 6G, you're working on a really, really  
13 broad policy matter and so there's no restriction  
14 against you representing your client before NTIA  
15 about that. With that being said, you also  
16 shouldn't be using any non-public information that  
17 you have, you know, for your own benefit.

18 So, you know, putting that one specific legal  
19 restriction aside, if you have information about,  
20 you know, things like, if you have non-public  
21 information about 6G, I would advise you against,  
22 you know, contacting NTIA on behalf of your client

1 as a way of like monetizing on that, if that makes  
2 sense.

3 MR. MARGIE: It does, very helpful. And  
4 then just the other side of that coin is it sounds  
5 like as long as we're giving generalized advice to  
6 the advisory committee that's not company  
7 specific, we don't need to seek a special, a  
8 specific waiver for you if our company or one of  
9 our clients has an interest in 6G, right? It's  
10 only for company specific things.

11 MR. SHARKEY: Yeah, I mean, I would also  
12 say we should try to cross that bridge when we get  
13 there because it kind of depends on what the  
14 situation is. So, for instance, if you guys were  
15 involved in funding opportunities relating to 6G,  
16 then that would be probably different. And there  
17 won't be restrictions against your company going  
18 before NTIA, but there would be restrictions  
19 against you going before NTIA on behalf of your  
20 company, worst case scenario. But yeah, that's  
21 kind of a, it's a little bit more fact specific.  
22 Alright, I see Jennifer has a question.

1 MS. WARREN: Thank you. This has been  
2 helpful, and I wanted to kind of just follow up to  
3 remind myself of this conversation. I know there  
4 was a link in the emails that went out with our  
5 financial disclosure certifications. The link  
6 didn't work, but it was the link to the summary of  
7 the ethics rules. Could a new link, at least, it  
8 didn't when I opened it, tried to open it. Could  
9 either an attachment go out with that or a resend  
10 of the link because I would like to just on my own  
11 time read those again in case I have further  
12 question. Thank you.

13 MR. SHERLOCK: Yeah. So, what I'm going  
14 to do is I'm going send Antonio, and I just sent  
15 it to him. I sent him a link to the ethics rules  
16 applicable to SGEs that's on our website at  
17 commerce.gov, and he can circulate it to you guys  
18 after this.

19 MS. WARREN: Perfect, thank you.

20 MR. SHERLOCK: Yep. And again,  
21 generally, if what you guys are working on is  
22 broad policy matters, so, you know, things that

1       aren't related to funding that are just kind of,  
2       give me advice on the direction that you think,  
3       you know, the U.S. needs to go down relating to  
4       things like 6G. You know, that's such a broad  
5       subject matter.

6               Generally there aren't a lot of ethics  
7       restrictions that would actually apply to you.  
8       The general ethics restrictions about, you know,  
9       you being able to weigh in on federal matters or  
10      you know there being an appearance that you might,  
11      you know, be able to benefit personally or that  
12      like a company that you have an interest in, might  
13      benefit from the advice you're rendering. Those  
14      are generally based on the presumption that you're  
15      going to be rendering advice that is more narrowly  
16      tailored so things that would affect a specific  
17      industry or things that would affect a specific  
18      set of companies, or just one company, stuff like  
19      that.

20             If, you know, you're giving advice that could  
21      affect the entirety of the U.S. economy, or, you  
22      know, that doesn't really have much of an economic

1 effect, that's the type of stuff where financial  
2 conflict of interest rules and relationship- based  
3 conflict of interest rules would not apply. But  
4 with that being said, you know, it's important to  
5 at least know what those ethics rules are.

6 Okay, does anyone else have any questions for  
7 me? Okay. Well, if not, if you have any  
8 questions later on, you can either reach out to  
9 Antonio or you can reach out to the ethics  
10 division. We have an email address and a phone  
11 number that's kind of a hotline. You also have an  
12 assigned ethics attorney who unfortunately just  
13 wasn't able to make it today. His name is Jeffrey  
14 Harrington. Antonio has his contact information,  
15 so, you know, if you have any questions, worst  
16 case scenario, you can reach out to Antonio, and  
17 he can reach out to us. But, you know, these are  
18 just important rules to keep in mind as you move  
19 forward. So, thank you all very much for your  
20 time, and I hope you have a great day.

21 MR. RICHARDSON: All right, thanks Eli.  
22 We appreciate that. I'm assuming there's no

1 further questions from any of the committee  
2 members. And since I, oh, I thought someone had  
3 raised their hand. I guess they put it down.  
4 Anyway, that's it. I want to thank you all for  
5 coming and again, Jennifer and Chara, thank you  
6 for co-chairing this committee and that's all I  
7 have. Does someone have something for me because  
8 I'm a little frustrated right now. So, other than  
9 that, that's it for me. Anyone? No one? You all  
10 have a great weekend and look forward to emailing  
11 you and getting those subcommittees you want to  
12 work on, so thanks a lot and.

13 MR. PERAERTZ: Thanks for the support,  
14 Antonio.

15 MS. RASH: Thanks, everybody.

16 MR. RICHARDSON: Thanks, everybody.

17 (Whereupon, at 3:00 p.m., the  
18 MEETING was adjourned.)

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CERTIFICATE OF NOTARY PUBLIC  
COMMONWEALTH OF VIRGINIA

I, Kendra L. Hammer, notary public in and for the Commonwealth of Virginia, do hereby certify that the forgoing PROCEEDING was duly recorded and thereafter reduced to print under my direction; that the witnesses were sworn to tell the truth under penalty of perjury; that said transcript is a true record of the testimony given by witnesses; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this proceeding was called; and, furthermore, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

Kendra L. Hammer

Notary Public, in and for the Commonwealth of  
Virginia

My Commission Expires: September 30, 2025

Notary Public Number 7916662

