U.S. DEPARTMENT OF COMMERCE

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COMMERCE SPECTRUM MANAGEMENT ADVISORY COMMITTEE (CSMAC)

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MEETING

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TUESDAY
OCTOBER 1, 2019

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The Committee met in the Law Offices of Morgan Lewis & Bockius, LLP, 1111 Pennsylvania Avenue NW, Washington, D.C., at 1:00 p.m., Charla Rath and Jennifer Warren, Co-Chairs, presiding.

PRESENT
CHARLA RATH, Co-Chair
JENNIFER WARREN, Co-Chair
CLAUDE AIKEN, Member
MARY BROWN, Member
MICHAEL CALABRESE, Member (by telephone)
JEFF COHEN, Member
MARK E. CROSBY, Member
H. MARK GIBSON, Member
CAROLYN KAHN, Member
MARK LEWELLEN, Member
WAYNE PHOEL, Member
CARL POVELITES, Member
RUTH PRITCHARD-KELLY, Member (by telephone)
MARK RACEK, Member
ANDREW ROY, Member
KURT SCHAUBACH, Member
MIRIAM SOROND, Member (by telephone)
CHRISTOPHER WEASLER, Member

ALSO PRESENT

CHARLES COOPER, Associate Administrator, Office of Spectrum Management, NTIA

BRUCE JACOBS, Senior Advisor, NTIA

DOUG KINKOPH, Acting Deputy Assistant Secretary for Communications and Information, NTIA

DAVID REED, Designated Federal Officer

ANTONIO RICHARDSON, Office of Spectrum Management, NTIA

LICHING SUNG, Office of Spectrum Management, NTIA

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

1:04 p.m.

MR. KINKOPH: Good afternoon. Thank you for attending today. My name's Doug Kinkoph. I'm the Acting Assistant Deputy Secretary for NTIA. And I'd like to welcome you all to the -- Please mute your phones.

(Off microphone comments.)

I'd like to just welcome you all to the 2019 CSMAC, and to see some familiar faces, and get to know new ones here today.

I'd definitely like to welcome the new members. Which ones of you are new? If you could just quickly raise your hand? Welcome aboard. Welcome.

I'd like to recognize Jennifer Warren and Charla Rath, who serve as our new co-chairs. Thanks for your leadership, and taking on that responsibility. Appreciate it.

Much has happened since the 2018 CSMAC. Since the White House has released last year the Presidential Memorandum on spectrum

management, NTIA has been hard at work at taking on those tasks that we set forth in that report.

Last month we release a report that showed significant progress on spectrum repurposing efforts. That includes efforts like making 5.9 gigahertz available for terrestrial wireless and 5G.

We completed work on the National Spectrum Strategy, which is under review at the White House. And we hope, I'll say that again. We release in the coming weeks. And CSMAC will be a vital partner in ensuring that that strategy takes us long term here.

We completed the engineering research and testing work that made it possible for the recent FCC rollout of CBRS. This marks a decade of NTIA partnering with the FCC, Department of Defense, and industry counterparts to bring this idea to fruition.

We look forward to monitoring and supporting this as they, the FCC rolls this out next year in auction.

NITIA also has been working on preparations for a World Radio Communications Conference in Egypt. It's starting later this month.

Ambassador Grace Koh will be the U.S. delegation to assert ongoing American leadership in the global spectrum allocation decisions. I know a few of you, or many of you may even be attending. And we look forward to working with you there in Egypt.

Today's agenda, we're going to look at four study questions. And I'm just going to go over those quickly. That will help inform our discussion.

The first, what should we -- Please mute your phones. Thank you. First, what should we set up as an implementation structure or governance model for the National Spectrum Strategy?

We'll encourage broad input on this, and look forward to your recommendations, including potential changes in process, new

entities, roles and responsibilities, including whether or not new legislation may be required.

Second, what would be the utility of seeking information about current spectrum use, and future requirements from non federal users? And how much of this information is already available?

We've sought this kind of information from federal users, on the grounds that having more accurate and granular data will allow better and more rapid decision making on sharing that ability.

Third, on the issue of Interference Prevention, Interference Prevention, Detection, and Resolution. How could equipment authorizations rules at the FCC and NTIA be modified to require that all transmitters use a unique identifier?

And fourth, we've put forward a set of questions regarding command and control spectrum for Unmanned Aircraft, UAVs. This will include questions about how to ensure collaboration among

governance bodies, structures, costs, disparate federal agency jurisdiction.

So, we look forward to your perspectives on these issues. We have great confidence in your ability to provide guidance on these issues.

And that's really concluding my remarks. Before I hand it back to my esteemed co-chairs here, I just want to thank you all for participating in the CSMAC. I look forward to working with you.

CO-CHAIR RATH: I get it first, since the mic is open. Not much to say here. But I really appreciate everything that you all have done in helping us get started with our first meeting in this session.

I think we have, you know, four very good questions, and very complicated ones. So, I think we've got our work cut out for us. And really looking forward to it. Jennifer.

CO-CHAIR WARREN: I've got this one. Yes. So, again, echoing Charla's thanks. And

particularly for everybody who so quickly volunteered, either to co-chair the subcommittees --

That's a wireless mic problem. Or have volunteered to participate in the various subcommittees. I think there's still a few more that we'd like to see join a committee. And encourage those, and everybody by the end of this meeting.

One of the things we wanted to do, because we've got some folks on the call that are members as well, is for the audience to go around, introduce ourselves. And then, after everyone in the room has done that, ask for the members, only the members, to introduce themselves.

There will opportunity at the end of the meeting for public comment. And we'll save the public for then, as we said. So, maybe starting the far end on the right. And please mute on the phone. Whoever it is is moving paper very loud.

MR. COHEN: Passed the first test. Good afternoon. I'm Jeff Cohen. I'm Chief Counsel at APCO International. APCO is a nonprofit association of public safety communications professionals, which means 911 and first responder locations. And I'm new to the group. So, thank you.

MS. BROWN: Hi. I'm Mary Brown from Cisco Systems. This is my second time through on CSMAC. Excited to be here.

MR. AIKEN: Hey. I'm Claude Aiken, the President and CEO of WISPA, the Wireless Internet Service Providers Association. We represent the small rural fixed wireless operators in, here in the United States. Also a newbie here, and really excited to be a part of the CSMAC.

MR. SCHAUBACH: Hi. Kurt Schaubach. I'm with Federated Wireless. I'm the CTO for Federated Wireless. And Federated is a software/hardware company that does spectrum sharing.

MR. WEASLER: Good afternoon, everyone. Chris Weasler. I'm from Facebook. This is my second time around on CSMAC. And I'm on a team at Facebook called Facebook Connectivity, that works on programs, solutions, technologies that we hope will lead to more pervasive and affordable network connectivity.

MR. CROSBY: I'm Mark Crosby, President of the Enterprise Wireless Alliance. Lost track how many terms I've done this. I think Dale and I though, I don't know if Dale's on the line. I love it. I keep coming back, right.

So, we represent business industrial land transportation licensees and private land mobile network operators across the country. Glad to be here.

CO-CHAIR RATH: Charla Rath. Recently retired from Verizon after 20 years. But still engaged and interested in these topics. So, I agreed to co-chair the CSMAC this year. Not as many as Mark. Not as many terms as Mark.

Turning over to you.

CO-CHAIR WARREN: Jennifer Warren at Lockheed Martin. And I'm going to welcome, and I'll have him introduce himself, the new head of the Office of Spectrum Management at NTIA, Charles Cooper. We should be recognizing our special guest.

MS. KAHN: Hi. I'm Carolyn Kahn, Chief Spectrum Economist at the MITRE Corporation. I've been working economic policy and spectrum issues for over 20 years. And we do a lot of different work on spectrum at MITRE.

MR. ROY: Good afternoon. Andrew Roy from Aviation Spectrum Resources. We are coordinating aviation spectrum issues on behalf of the airspace users in the U.S. And this is my second time on the committee. Thank you.

MR. LEWELLEN: Good afternoon. This is Mark Lewellen of John Deere. Second time around. I just wanted to point out that agriculture has had a point in U.S. telecom policy that predates the Comm Act of 1934. In

the '20s NTIA, or Department of Commerce issued two licenses for broadcasters. And one of those was limited to weather forecasting and crop information. So, we've been involved for a long, long time on agriculture.

MR. GIBSON: I'm one of the five Marks, Mark Gibson. Raise your hand if your name is Mark. I'm Director of Business Development with CommScope, Business Development and Regulatory Policy with CommScope.

I'm from the Comsearch Division, which does spectrum management. And I'm a SAS provider as well, like Kurt. I lost track of how long I've been here. Like Mark, awhile. So, that's it.

MR. RACEK: Yes. I'm the other Mark, Mark Racek. And I work for Ericsson. We're an ICT company. And, you know, this is my second term here. And I've enjoyed it so far.

I think this is, looking at these type of questions I really think is enlightening. And I hope that I can be able to provide some input

and contributions into the work. Thank you.

MR. POVELITES: Carl Povelites, not a Mark, AT&T.

MR. PHOEL: Hi. I'm Wayne Phoel. This is my first CSMAC. I have a few things going on, one of which is on the research faculty at the University of Maryland, Institute for Systems Research. I also have an independent LLC that does advanced technology research focusing on wireless communication. And I am the last of the members sitting here at the tables. I think we pass it over to those on line, right?

CO-CHAIR WARREN: So, members on the phone, if you could introduce yourself.

MS. SOROND: Hi. This is Mariam Sorond. I am the Chief Research and Development Officer at CableLabs, working on cable wireless innovation technologies. And this is my third term at CSMAC. So, thank you all.

MS. PRITCHARD-KELLY: And this is Ruth Pritchard-Kelly. I'm the head of Regulatory and Spectrum Affairs for OneWeb, one of the new LEO

global constellations of satellites. My fist CSMAC, but hopefully not my first spectrum rodeo. Really happy to be here.

MR. CALABRESE: Yes. And this is Michael Calabrese. I direct the Wireless Future Program at the Open Technology Institute at New America. And I've been on CSMAC since 2009.

(Off microphone comment.)

CO-CHAIR WARREN: Anybody else? All right then, we'll be moving on to the next part of our agenda, which is to invite Charles to share with us his thoughts in the context of a federal spectrum update. Thank you.

MR. COOPER: Thank you, Jennifer for getting us underway. It's great to have CSMAC back in action. I noticed just this past weekend the White House issued an Executive Order on the continuance of certain Federal Advisory Committees, which we call FACAs. And CSMAC was part of that. So, we are certainly in full force, and fully authorized to proceed.

Since this is my first CSMAC meeting

I wanted to mention my own optimism and excitement about the work we're about to do together.

I joined NTIA just a few months ago, but already are aware about the important role it plays, not only in managing federal spectrum use, but also in collaborating with industry, the federal agencies, the White House, and the FCC to generate policy proposals, and sharing approaches that benefit everyone.

So, I'm really looking forward to CSMAC's work, because it's important to maintain and grow the dialogue and cooperation that we have traditionally had with the private sector.

I understand that the Associate Administrator of OSM has traditionally offered an update at each CSMAC of where we currently stand on an array of spectrum policy issues and other developments. So, with your indulgence I'd like to share some of my thoughts on the current state of play.

On repurposing, as Doug has mentioned

just a few moments ago, we've been very active in pursuing ongoing efforts that already date back several years.

This includes going all the way back AWS-3 transition plan, which there are still very much live issues for us. I would like to touch on a few, several repurposing efforts that we have been actively supporting.

One of those major efforts on repurposing that has seen quite a bit of interest lately, and a major milestone, was the initial commercial deployment, the ICD of services utilizing Spectrum Access System, SAS's equipment, and the Citizens Broadband Radio Service, CBRS, in the 3550-3700 megahertz band.

NTIA carried out the vital engineering and software development for the Testing of SASs, and their environmental sensing capabilities equipment, enabling the FCC to certify the SASs.

NTIA will remain involved in tracking and monitoring how these systems perform, and is looking forward to the next round of assessing

the 30 day progress reports covering these initial commercial deployments.

The process of implementing the new dynamic protection areas, DPAs, using the SASs and ESE technology is just starting. And we're in it for the long haul.

Just last week the FCC approved a PN proposing to offer 70 megahertz of access licenses at Auction 105, which is scheduled to commence June of next year in the CBRS band.

I would also like to note that we're working to study the potential for compatibility between new terrestrial wireless systems and federal incumbents in the adjacent 3450 to 3550 megahertz band. That study is due to be completed by next spring.

As we all know, it would be wrong to assume that any particular approach developed for other bands would be duplicated in this band, which has its own set of incumbents and circumstances. But we will be looking for all appropriate potential approaches for the

feasibility.

Meanwhile, we're in the early stages of considering a similar feasibility study in the federal spectrum in the 7 to 8 gigahertz band. This has arisen due to the FCC's consideration of the adjacent 6 or 7 gigahertz band for potential unlicensed services.

We've made progress in implementing the Congressional Mandates contained in recent spectrum related legislation, including the Spectrum Pipeline Act of 2015, and the Mobile Now Act that Congress passed last year.

Congress has acted in two ways to direct spectrum policy, and provide us with the tools to implement it.

First, Congress set specific amounts, and in some cases described even the bands and ranges to study for potential repurposing, including spectrum sharing.

Second, Congress has provided incentives through the Pipeline Act funding for the federal agencies to explore potential changes

in their operations that could free up spectrum for auction.

So, the NTIA has proceeded, in conjunction with the FCC, in carrying out both policies. Pipeline funding has been applied for, and received in the study of 1300-1350, and 1675 -1680 megahertz bands.

The 3450-3550 megahertz band I already mentioned earlier is a key part of the larger 3100-3550 megahertz study that Congress directed us to complete in the Mobile Now Act.

We are working to submit a report in that vein, with a statutory deadline of March 23rd of next year.

Pipeline studies, including the 1300-1350 sensor work, and NOAA's 1675-1680 study may allow us to meet the Pipeline Act requirement that we identify 30 megahertz below 3 gigahertz for reallocation from federal to non federal use, or shared use.

We also have been considering the bands that would satisfy the Mobile Now

requirement, to identify 250 megahertz of mobile and fixed broadband use, including 100 megahertz below 6 gigahertz for licensed, 100 megahertz below 8 gigahertz for unlicensed, and a further 55 megahertz below 8 gigahertz for licensed, unlicensed, or both.

We're also working on a report that addresses the issues on incentives for federal spectrum users, such as the Mobile Now Act mandates this to be finished by March 23rd of next year.

To inform this report NTIA is planning to issue a request for comments in the public on this incentives issue. By the way, we will also be requesting on comment on the issue, potentially allowing federal users to lease out spectrum to non federal entities.

This proposal has been teed up in past federal budget proposals. And we remain interested in exploring them.

One of the major activities this past year has been the multi-pronged effort to

implement significant parts of the Presidential Memo, which came out nearly a year ago this month, October 25th of '18.

Among the tasks assigned to NTIA in the Presidential Memo are drafting the first annual update report on repurposing initiatives, which is being, which was released this past August, providing guidance to the federal agencies on conducting forecasts, and filing reports on the future spectrum lease requirements.

NTIA has been analyzing and summarizing these reports for potential future release. Also providing guidance to the agencies to begin reviewing and quantifying the current spectrum usage.

NTIA asked agencies to begin by reviewing the 3100-3550 megahertz, and the 7125-8400 megahertz band. Other bands will be added after consultation.

Meanwhile, NTIA has drafted a document outlining the National Spectrum Strategy, which

you all heard about, as the Presidential Memo directed. That document is currently under review at the White House.

On the topic of space commerce we are looking to develop a space frequency spectrum strategic plan for the Secretary of Commerce to present to the National Space Council.

The plan will look at the current and future space spectrum usage by both Government and industry. It will assess the broad economic and functional value of protecting the spectrum, and consider possible changes in the current procedures and policies to better protect these operations.

It's all part of our ongoing efforts to balance the spectrum needs on our vital national priorities, including the development and deployment of 5G technologies, the continuing effort of space commerce, and the excellence of our Federal Government operations.

Mentioning the Presidential Memorandum and the National Spectrum Strategy is perhaps a

good segue into the business of this meeting, which will tee up those questions that CSMAC will pursue during this important term.

CSMAC will in fact have an important role to play in exploring and recommending the best processes in governance approaches to translate the strategy elements, and the goals, milestones, and achievements.

I would like to first extend my gratitude to the Office of Spectrum Management Spectrum Affairs and Information Division for developing and organizing this meeting. In particular Dave Reed, Antonio Richardson, and John Alden.

I would also like to note that the White House, as I mentioned earlier, provided the continuance for this CSMAC meeting, and along with the Department of Commerce, fully renewing the charter. Thank you.

CO-CHAIR WARREN: I think typically in the past we've allowed for some questions if there are any of our special guest. So, if

you're opening it up to the floor, if there are any questions to Charles.

Oh, yes. The folks on the phone, please mute. You may not realize it, but you are very audible every shift. And actually, the other thing is, for the new members.

The way we actually do this is, if you're interested in asking a question -- Thank you, Mark, for the demonstration. You put your nametag up. And you should always, for the record introduce yourself before asking a question or making a comment. Okay. Mark.

MR. RACEK: Mark Racek, yes. So, back to the March 23rd report. I just wanted a clarification. You said there was an RFC expected to be released on incentives, and also on leasing federal spectrum.

And I was wondering if there is some clarification about sort of the timeframe? Is that something that's expected later this year? Or how do you see this?

MR. COOPER: So, we have these RFCs,

requests for comment. I would say the one that's a priority is the one that's called out in the March statutory requirement. So, that would be the incentives RFC.

CO-CHAIR WARREN: So, to clarify, there were two separate RFCs. Any other questions? And again, on the phone, please mute. We may just have to mute you here.

Any questions from members on the phone either?

MS PRITCHARD-KELLY: Jennifer, it's Ruth at OneWeb. I just wondered if there was an effective way for those of us on the phone to let you know we have a question, other than just interrupting and speaking?

CO-CHAIR WARREN: Actually, there is. If you could just press a button on your phone we can hear a tone. And then we'll know there's a question. And at the right point we can acknowledge the phone. If you don't mind that approach, that I think would work.

MS. PRITCHARD-KELLY: Wow. Oh, thank

you.

CO-CHAIR WARREN: It's old school, but workable.

(Off microphone comments.)

CO-CHAIR WARREN: It's State Department process. I have to give credit to State Department on that. But, so one of the things again, more of a logistics thing, is just to recognize and thank Morgan Lewis for hosting us at their facility today.

You will notice that while we are always graciously received at NTIA, we do not always have the beverage and snack assortments provided to us. So, just that extra little, we're going to acknowledge being here at Morgan Lewis. Thank you, Dave, for taking up the offer there.

(Off microphone comment.)

CO-CHAIR WARREN: I know. That was the point I was trying to make. Anyway, moving on from that. We are going to move on to the introduction of the topics and the subcommittees.

Everybody had distributed by Dave Reed the list of the CSMAC topics.

You will see as we go through them that there are the Subcommittee Co-Chairs listed there. But also, Dave had previously I believe distributed to everybody kind of the composition of each of the subcommittees to date.

And I want to commend, all the Co-Chairs have reached out to all of those who have expressed interest. Again, an opportunity for those couple that haven't yet expressed an interest in any of the subcommittees to do so.

Please do. Most of, one subcommittee, and we'll get to that, has already had its first call. And as I said, others have already engaged, which is great.

And we also already have the NTIA liaisons. So, thank you in advance for the work that the NTIA liaisons will do. And we'll recognize them with each of the topics as we go through each of them.

So, kind of to pick up on Charles'

point, I want to thank him for allowing us and asking us to weigh in not only on more of the technical topics, but also more of the strategic topics as well.

This is a very nice blend, these four topics that we'll be talking about, of technical and strategic policy, if you like.

And I think Topic number 1, National Spectrum Strategy Implementation Governance Model, long title. Nonetheless is such a strategic question that NTIA has asked for our feedback on.

And while we do not yet actually have a National Spectrum Strategy, as we heard it's going to be released this fall sometime, we do have the underlying Presidential Memorandum, which gives us an indication of what they're looking for the National Spectrum Strategy to do.

And in the package that everybody has you'll see a number of the sub bullets that are there, as to what the spectrum strategy will address.

And I want to thank both Jennifer Manner and Mary Brown for agreeing to co-chair this subcommittee. And Chris Mattingly, who I don't see here, is the NTIA liaison. And I believe you've already started to solicit materials, and have, starting a discussion group on this.

This has been listed as a high priority for NTIA. We were asked to try and deliver on the first part of the topic really by our next, you know, the draft of a response by the next CSMAC meeting, which as we'll talk about later will not take place until the beginning of next year.

As many of you are aware individually or through your companies, or from the comments already made, I, Dough, and Charles, we have a WRC, which would be between now and the end of the year, which a good number of actual CSMAC members, as well as leadership at NTIA are participating in.

So, there will be a lot of remote work

done between now and then. But trying to bring together everyone prior to the end of the year, given the radio conference going until almost the end of the third week in November, is going to prove challenging.

And in respect for all of our holidays I'm looking at the beginning of, or end of January probably for our first meeting. And I think that's the timeline that was discussed with Mary and Jennifer, again for the first part. And at least we'll have the benefit of the National Strategy having been released by then. Are there any --

PARTICIPANT: No. I'm just considering.

CO-CHAIR WARREN: Yes, okay. Are there any comments you'd like to make, Mary? I know Jennifer Manner is on travel, and unable to be here. So --

MS. BROWN: Yes. So, Jennifer is unable to be here. But both of us are very excited about co-chairing this committee. And we

will be having our first conference call on October the 10th. So, if you are interested, and you haven't signed up, please do. And we'll add you to that conference call.

We have been soliciting information from the members about the jurisdictional nature of spectrum policy and spectrum management. I want to call out Carolyn Kahn in particular, for sending a stellar list of things, and Michael Calabrese, who's on the phone as well, sent us some stuff.

And we're going to try to start out just by understanding what the current state of play is from a statutory, regulatory, and policy perspective, just to make sure everybody is on the same footing.

And that seems like a useful way to proceed while we await the release of the actual document.

CO-CHAIR RATH: Thanks. One just sort of serial point. That please, when you're actually sending documents or anything, be sure -

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(Telephonic interference.)

CO-CHAIR RATH: Could you mute your phone, please? Could you mute your phone? Thanks. Just a reminder to copy the co-chairs.

(Telephonic interference.)

CO-CHAIR RATH: Please mute your phone.

(Telephonic interference.)

CO-CHAIR RATH: Yes. Can you mute --

(Off microphone comment.)

CO-CHAIR RATH: Whoever is having a conversation, please mute your phone. Or you're just -- Thanks. Thank you. I hope that's it. This is a very disruptive group today.

In any event, just a reminder that Jennifer and I would like to be copied. And I think, you know, obviously the liaison should always be copied, and also Dave Reed.

The second topic we're taking on is also, it's a very interesting topic that is related to the National Spectrum Strategy. And

as, you know, part of what NTIA has been tasked to do is to really look at what use spectrum is.

And as, you know, as I think most of you know, has already reached out to the federal community. What this is, is they're asking us to look at knowing that it is very different, you know, federal user to commercial user, or federal user even to non federal user.

What they're doing is, they're asking CSMAC to look at the feasibility and the utility of actually looking at, you know, use of spectrum by non federal users.

And I think, you know, we both have -- Mark Gibson is here. But I think Bob Weller is not actually able to attend. We'll ask you in a minute to sort of address that.

But I also wanted to mention that Liching Sung, who is here, is liaison to this committee. And thank you very much. Appreciate it.

But we're, this one will probably take place over a slightly longer timeframe than the

first part of Topic 1. And even, we'll talk about Topic 3 in a minute. But Topic 3 is also going to be a fairly short turnaround.

Because I think there's a fair amount that CSMAC has already done on this issue. But also looking at just what kinds of information is already available.

And then, frankly, the next step, looking at just, you know, what the feasibility is of getting information from, you know, private sector users.

So, Mark, do you want to talk about what you all have done so far?

MR. GIBSON: Yes. This is Mark Gibson. Really all I've done is get it together with Bob. And it was almost opportunistic when I ran into him at spectrum conference last week, and kind of coordinated on what we thought we wanted to do.

And so, I sent an email out last week to the committee asking two things. One is, I sent some documentation from I think the first

substantiation of this. But back when I first got on CSMAC, which I think is 2011.

It was a subcommittee called spectrum improvements. And the activity that we had was to look at a GAO report, and comment on how the NTIA might be able to better address how to manage the data in the context of that.

So, I sent that out. Then I sent, so I sent the GAO report. And I also sent out the report from the committee, to, at the time to this subcommittee, as background information.

And so, I did that. And I've set up some timeframe for meetings, which I think is next week. So, any of you guys that are on this committee, and haven't got back to me on a timeframe for meeting, please do that. That avoids me having to send the email that I've been working on right now.

So, that's where we are. I think, you know, it's still, what I want to do in the first meeting is to take stock of where people think we are, like we usually do. And then we'll put a

work plan together.

And we should have something certainly to present I think in the next meeting. Given the timeframe it will probably out past the new year. So, that's kind of where we are. Any questions? Okay. This will be easy.

CO-CHAIR WARREN: At this point.

CO-CHAIR RATH: Yes. We'll see. So, okay. Thanks, Mark. Moving on to Topic 3. It's the shortest question. It also has, will have the shortest turnaround. That's interference prevention, detection, and resolution.

And basically it's just looking at how NTIA and the FCC's equipment authorization rules can be modified to require that all transmitters use a unique identifier. You know, it's really, as I said, it's sort of a simple question. But in a very complicated world that we're living in.

So, I believe this is the one committee that actually has had a meeting so far. And Miriam, actually, before I move on, I also wanted to thank Bruce Jacobs, who will be the

liaison to this committee. Bruce is here, sitting over, not quite in the corner. But he's over there.

And Miriam, if you could tell us a little bit about what you all have done so far, and what you're plans are moving forward.

MS. SOROND: Sure. Yes, sure. Thank you, Charla. Yes. I wanted to acknowledge that Brian Tramont is also a co-chair of this subcommittee.

So, Brian and I really appreciate, you know, with Bruce's guidance we had a call on September 25th. And it was our first subcommittee call.

And I just wanted to weigh in on the comment on the shortest time around. Just for clarification, we may have to break this out in phases. And we're kind of contemplating that.

So, maybe we are going to try. Our goal is to submit something by the April 2020 timeframe. But we thought of that in a way that, if there are any follow-ups appropriate, identify

things that needed to be further, after going through the first round of things, we gave ourselves time.

So, Charla, before you, we completely promise you the April 2020 deadline, we'd appreciate getting a chance to see, as we put our arms around this.

It's a very interesting question. You know, we're looking at what's out there right now, in terms of this sub-topic. And basically that's our first phase.

And coming out probably with a framework that's more rounded. And looking forward to, then to defining potential next phases.

CO-CHAIR RATH: Yes. Actually, Miriam, just a quick question. You're, presumable you're talking about having a final? So that you would have a draft by our next meeting? Or is this, you're talking about having a draft in April?

MS. SOROND: So, first phase sort of

framework, final in April. Next phase is to be also defined in April, if that makes sense. So, we'll target sort of this earlier date for a readout of where we are. And then, at that meeting also kind of define the potential next steps of what this subcommittee might have to do.

CO-CHAIR RATH: Yes. We, sounds good. But what we should probably do is off line and have a conversation with NTIA about the planning, and how this fits in with what they're looking for. So, but thanks, Miriam.

MS. SOROND: Yes, absolutely. That's a really good point. Bruce was on our first call. And we're working very closely with him. And appreciate and welcome all feedback.

CO-CHAIR RATH: Super.

CO-CHAIR WARREN: So, moving to Topic 4. And this one is a little different from a timeframe perspective. As you have all heard, the first three there's an expectation that there will be some form of preliminary deliverables.

In the last one it may slip until the

second quarter. But preliminary deliverables at the first meeting in 2020. This one won't get started until 2020.

Because again, we've got a world radio conference. We've got three priority topics. This is not a lesser priority in terms of the importance of it. But in terms of timing it could be phased so that people could, you know, be realistic in the management of the workload.

And I want to thank Carolyn, sorry, Carolyn Kahn and Andy Roy for agreeing to co-chair this. And Dave will be the liaison. So, he's going to be double duty on this committee. So, thank you twice.

And so, the focus of this is really on spectrum for unmanned systems, unmanned aerial systems. And we've spent a lot of time in conversations, not at the CSMAC, but in the spectrum community, on the small UAF.

This is much broader than small UAF. This is not exclusive of, but inclusive of all the other sized unmanned aerial systems, whether

it's the urban air mobility, whether it is unmanned cargo aircraft.

There's a wide range beyond what I fondly call the pizza delivery sized drones, or the real estate aerial drones that need to be accommodated and accounted for. And it's not something that really falls within the unique purview of any one agency.

There's integrations to the national airspace. There's commercial, noncommercial uses. There's a number of questions that need to be answered about how best to get at, as the question actually says, the governance model.

What are the appropriate governance models for this? And it should be a really I think rich and interesting dialogue, both technical and policy.

And so, I'm really happy that Andy and Carolyn have agreed to, that they agreed to co-chair this. And maybe I'll turn it over to you two if one of you is, or both of you would like to say something. I can pass you the mic.

MR. ROY: Okay. So, very quickly obviously, because we're not starting until January 2020. But Carolyn and myself are very excited for what could be a wide ranging topic.

We would ask to not everyone sit back and relax. We are going to try and collect some reference material to support the group. And also seek some sources that we can go and talk to, and gain some information about the topics, so when we hit the January 2020 CSMAC meeting to kick off, that we can be on the ground running.

So, please keep an eye out. We will send stuff out that you can read in the quiet time between the WRC and the National Spectrum Strategy. Thanksgiving and Christmas is in your busy fourth quarter I think.

MS. KAHN: And our expected deliverable would be in about a year, 12 months from once we get started.

(Off microphone comments.)

CO-CHAIR WARREN: So, are there questions from any of the members about these

topics, the subcommittees, related to protocol? Any -- Jeff. Just announce yourself.

MR. COHEN: Yes, Jeff Cohen with APCO. I can't recall if you guys had started mentioning, are there still opportunities for members to join some of these?

CO-CHAIR WARREN: Please.

MR. COHEN: Okay.

CO-CHAIR WARREN: Absolutely.

MR. COHEN: So, maybe I'm making a rookie mistake. But I would be interested in joining the unmanned aircraft, if you'll have me. Just because I, you know, public safety is making significant use of drones. And it's an interest, of interest to us. So, that's why I wanted to comment. Thanks.

CO-CHAIR WARREN: That's the kind of comment we like. Anyone else want to volunteer? Any other questions? And anything from --

MR. CALABRESE: Yes.

CO-CHAIR WARREN: Again.

MR. CALABRESE: Hi, Jennifer.

CO-CHAIR WARREN: Okay. Michael Calabrese. I didn't recognize your voice.

MR. CALABRESE: Michael Calabrese. Yes. I just, on the UASs, I just wanted to mention, I don't know if the co-chairs have any, if the subcommittee have any comment on this yet.

But I did want to note that the FCC's TAC, Technical Advisory Committee, has an ongoing group that is scheduled, I believe to make a final report on that topic by the end of the year.

And so, deferring this to January might also be a good idea for us to, you know, obviously to be, probably start from where they stop. And then would be informed by their work. And somehow arrange a kind of a briefing on it.

CO-CHAIR WARREN: Thanks, Michael. Yes, no, I think that sounds like that could be a good outbrief to the subcommittee, or potentially to the full committee. We'll follow-up on that.

And it may be something that they include as reference material. Other starting

point, or this reference, I'll defer to the chairs as to how to manage that. Okay.

MR. CALABRESE: Right.

CO-CHAIR WARREN: Chris.

MR. WEASLER: Oh, sorry. Chris Weasler from Facebook. Just a point of clarification on this item. So, is the scope of this item strictly the C2 links for the UAS, which is separate from, for example, what the WRC is going to address in Agenda Item 1.14 for high altitude platforms?

CO-CHAIR WARREN: So, specifically it does say UAS command and control. So, do the co-chairs have any different thoughts? Because that is how we, this is how we scoped it with NTIA, as appropriate. And I think that's the intended scope.

(Off microphone comments.)

CO-CHAIR WARREN: Okay. I'm seeing tentative agreement that that is --

MR. WEASLER: Okay.

CO-CHAIR WARREN: -- staying within

scope.

MR. WEASLER: Thanks. Yes, just clarifying. Because there are other uses of spectrum from those types of aircraft.

CO-CHAIR WARREN: Don't be shy. We have plenty of time. But we will not go long, not necessarily. But we do want to make sure that everybody has the opportunity.

Again, if anyone on the phone that is a member wants to talk, just push a button and I'll recognize you. Or if you speak we'll try and recognize your voice.

CO-CHAIR RATH: So, that's it. And no questions on any of the other questions. We're all set. Okay. So, this next section is the opportunity for public comment.

And I didn't know whether anyone's here from the public. Well, no. Or on the phone has anything they'd like to say at this point? I don't see anyone around the room raising their hand. And it doesn't sound like anybody on the phone. So, it looks like we can move on.

CO-CHAIR WARREN: So, that brings us to closing remarks.

CO-CHAIR RATH: Okay. Do not count on this to be the norm. You will get official --

(Simultaneous speaking.)

CO-CHAIR WARREN: So, however, so a couple of things from a logistics perspective. One is, as we've already indicated, look for the end of January, or maybe the first week of February at the latest, as the next CSMAC meeting.

We're going to try and meet quarterly. That's the goal. This is very much driven. Well, so that's a --

(Off microphone comment.)

CO-CHAIR WARREN: That brings up the question of proximity to ISART, out at -- Well, will January be here, you mean, the first one?

CO-CHAIR RATH: Oh, yes, yes.

CO-CHAIR WARREN: Yes. Sorry.

(Off microphone comment.)

CO-CHAIR WARREN: I thought you were

picking up on the quarterly cadence. So, the next meeting we presume will be here in D.C. We will not be traveling. Right, Dave?

MR. REED: That's correct. Yes. This is Dave Reed, NTIA. So, this first, this next meeting, because of the WRC, and because of the holidays, will be about four months, as opposed to three.

After that it will be approximately every three months. That puts us at a good point in terms of the summer, if ISART does occur. I don't know yet if it will occur. If it does occur, we'll try to have it coincide.

CO-CHAIR WARREN: But absent that, that would be our only field trip meeting, I believe. Okay. Other than that we'll be here in D.C. And it may not always be here at Morgan Lewis. It may rotate around. We may get NTIA sometimes. It may be another law firm. So, do not just populate your calendars with always Morgan Lewis.

MR. REED: If you want snacks, no

NTIA.

CO-CHAIR WARREN: And we will, after this meeting we will proceed still with co-chair calls. And I think the next one will be within the next few weeks, probably prior to the WRC. Just to connect, at least from a co-chair perspective.

CO-CHAIR RATH: Anything else you want to --

CO-CHAIR WARREN: No, I don't think so.

CO-CHAIR RATH: That's basically it. And we'll, you know, again, just a reminder to everyone to make sure that we're copied on whatever you send around.

We will probably not be able to do what Mark Gibson did, which was attend practically every call that was ever, you know, there ever was. But, you know, we do intend to, you know, participate and attend, you know where possible.

And certainly we'd love to see draft

documents, and be able to participate on that level. So, and again, you know, truly appreciate, you know, the volunteer, and how quickly everybody has not only volunteered to be co-chairs, but volunteered to be on committees. And seems to be pretty enthusiastically moving forward.

And, you know, just as Mark was when he was a co-chair, we're here to be a resource as well, to help facilitate all the work that we collectively will be doing over the next, I think Antonio said two years.

So, you know, feel free to reach out. And if there's anything we can do to help make the subcommittee process smoother, that's part of why we get to be co-chairs. And on that note, I think we'll adjourn. Unless anything else --

(Whereupon, the above-entitled matter went off the record at 1:52 p.m.)

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C E R T I F I C A T E

This is to certify that the foregoing transcript

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was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.

Neal R. Gross

Court Reporter