From:	Backus, Beau
To:	Schulze, Ron; Mike Rhodes; rjrussell@sbe.org; GROTHMAN, SAMUEL R Capt USSF HQSF SMC/SMC/SPG
Cc:	Jim Dugan
Subject:	Re: [EXT] RE: Question on STA request rejection
Date:	Monday, June 01, 2020 9:52:14 PM

Ron,

Yes, just a resubmission of the application and include Mike's email. This will resolve the FCC concern for local broadcasting.

Beau

From: "Schulze, Ron" <Ron.Schulze@jhuapl.edu>
Date: Monday, June 1, 2020 at 9:29 PM
To: Mike Rhodes <mike.rhodes@cavellmertz.com>, "Backus, Beau" <Beau.Backus@jhuapl.edu>, "rjrussell@sbe.org" <rjrussell@sbe.org>, "GROTHMAN, SAMUEL R Capt USSF HQSF SMC/SMC/SPG" <samuel.grothman.1@us.af.mil>
Cc: Jim Dugan <jimdugan@jetwavewireless.com>
Subject: RE: [EXT] RE: Question on STA request rejection

Beau
Should we simply resubmit the application with this email included as part of the application?
Ron

Sent with BlackBerry Work
(www.blackberry.com)

From: Mike Rhodes <mike.rhodes@cavellmertz.com>
Date: Monday, Jun 01, 2020, 6:02 PM
To: Backus, Beau <Beau.Backus@jhuapl.edu>, rjrussell@sbe.org <rjrussell@sbe.org>
Cc: Schulze, Ron <Ron.Schulze@jhuapl.edu>, Jim Dugan <jimdugan@jetwavewireless.com>
Subject: [EXT] RE: Question on STA request rejection

APL external email warning: Verify sender mike.rhodes@cavellmertz.com before clicking links or attachments

I am not aware of any issues with the operation of this facility in the past. I know this is not the first coordination. It is not close to any broadcast receive sites that its operation above 5 degrees elevation would impact.

We have no issues with this request.

Thanks for your patience.

Mike


```
*********************************************************
SBE Chapter 37 - Washington DC Frequency Coordinators

Email: coordinator@sbe37.org

Jim Dugan                Mike Rhodes
Jetwave Wireless, LLC    Cavell, Mertz & Associates, Inc.
703-307-6555             703-392-0014
*********************************************************
```

From: Backus, Beau <Beau.Backus@jhuapl.edu>
Sent: Monday, June 1, 2020 5:54 PM
To: rjrussell@sbe.org
Cc: Mike Rhodes <mike.rhodes@cavellmertz.com>; Schulze, Ron <Ron.Schulze@jhuapl.edu>
Subject: RE: Question on STA request rejection

Thanks RJ! Good to hear and a relief for you I'd imagine.

From: "RJ Russell, CPBE" <rjrussell@sbe.org>
Reply-To: "rjrussell@sbe.org" <rjrussell@sbe.org>
Date: Monday, June 1, 2020 at 5:39 PM
To: "Backus, Beau" <Beau.Backus@jhuapl.edu>
Cc: Mike Rhodes <mike.rhodes@cavellmertz.com>, "Schulze, Ron" <Ron.Schulze@jhuapl.edu>
Subject: [EXT] Re: Question on STA request rejection

APL external email warning: Verify sender rjrussell@sbe.org before clicking links or attachments

Beau,

DoD has informed me that they see these applications and will act accordingly if needed. As for SBE, since this is in Mike's backyard and he knows the operations in that area better than I do, I will let him respond.

Thanks,
RJ

Robert "RJ" Russell, CPBE
National Frequency Coordination Manager

rjrussell@sbe.org
302.414.0055

On Mon, Jun 1, 2020 at 4:19 PM Backus, Beau <Beau.Backus@jhuapl.edu> wrote:

> Hey RJ,
>
> You guys have a time when you think you'll finish the analysis and determine if there's any restrictions you'd like us to implement? We're getting a little pressure on the testing schedule on our end.
>
> Thanks,
> Beau
>
> ---
>
> **From:** "RJ Russell, CPBE" <rjrussell@sbe.org>
> **Reply-To:** "rjrussell@sbe.org" <rjrussell@sbe.org>
> **Date:** Tuesday, May 26, 2020 at 1:43 PM
> **To:** "Backus, Beau" <Beau.Backus@jhuapl.edu>
> **Cc:** Mike Rhodes <mike.rhodes@cavellmertz.com>, "Schulze, Ron" <Ron.Schulze@jhuapl.edu>
> **Subject:** [EXT] Re: Question on STA request rejection
>
> **APL external email warning:** Verify sender rjrussell@sbe.org before clicking links or attachments
>
> Beau,
>
> I will see what I can find out and will let Fred know you said hi if he is on the call. (He's been promoted a couple of times so he isn't as directly involved with this as much anymore.)
>
> Thanks,
> RJ
>
> Robert "RJ" Russell, CPBE
> National Frequency Coordination Manager
> rjrussell@sbe.org
> 302.414.0055
> **Error! Filename not specified.**
>
> On Tue, May 26, 2020 at 12:49 PM Backus, Beau <Beau.Backus@jhuapl.edu> wrote:
>
> > RJ,

Great to hear. I am familiar with the DoD co-primary (I worked on that effort a long time ago) in the band. If you have a chance on the call, tell Fred hi for me.

I think you might want to also make it known that the FCC needs to also think about the DoD on STA requests. There may be a fundamental difference because of the federal vs non-federal ways of handling the issue. If FCC tosses it over to NTIA, are they expecting that both NASA and DoD are responding and would you know that they did?

Appreciate any feedback you can share from the discussion. I'm sure it will be interesting.

Cheers,
Beau

From: "RJ Russell, CPBE" <rjrussell@sbe.org>
Reply-To: "rjrussell@sbe.org" <rjrussell@sbe.org>
Date: Tuesday, May 26, 2020 at 12:27 PM
To: "Backus, Beau" <Beau.Backus@jhuapl.edu>
Cc: Mike Rhodes <mike.rhodes@cavellmertz.com>, "Schulze, Ron" <Ron.Schulze@jhuapl.edu>
Subject: [EXT] Re: Question on STA request rejection

APL external email warning: Verify sender rjrussell@sbe.org before clicking links or attachments

Beau,

Mike brought me up to speed on this and I don't believe SBE would have an issue letting IB know that we are willing to work with you.

One thing to be aware of is that the Department of Defense is now co-primary in this band, not just NASA anymore. They have several systems that will be in this band that will be as mobile as broadcaster's ENG systems including aerial platforms; they have to be involved in any coordination request going forward. I have a telecon tomorrow with the DoD CIO and the various Area Frequency Coordinators to discuss how SBE will handle this moving forward.

Thanks,
RJ

Robert "RJ" Russell, CPBE
National Frequency Coordination Manager
rjrussell@sbe.org
302.414.0055

Error! Filename not specified.

On Tue, May 26, 2020 at 10:03 AM Backus, Beau <Beau.Backus@jhuapl.edu> wrote:

> Mike,
>
> Want to avoid possible confusion – we heard back from FCC only to the extent that we are denied without prejudice, and in speaking with them, they now want us to coordinate with you prior to submitting a STA, so coordination with you is needed for the STA to be processed. A bit different from times past.
>
> ---
>
> **From:** Mike Rhodes <mike.rhodes@cavellmertz.com>
> **Organization:** Cavell Mertz & Associates
> **Date:** Friday, May 22, 2020 at 11:32 AM
> **To:** "Backus, Beau" <Beau.Backus@jhuapl.edu>, "Schulze, Ron" <Ron.Schulze@jhuapl.edu>
> **Cc:** RJ Russell <rjrussell@sbe.org>
> **Subject:** [EXT] RE: Question on STA request rejection
>
> **APL external email warning:** Verify sender mike.rhodes@cavellmertz.com before clicking links or attachments
>
> Thanks Beau. I didn't know you had heard back from the FCC.
>
> ---
>
> **From:** Backus, Beau <Beau.Backus@jhuapl.edu>
> **Sent:** Friday, May 22, 2020 10:41 AM
> **To:** Schulze, Ron <Ron.Schulze@jhuapl.edu>; Mike Rhodes <mike.rhodes@cavellmertz.com>
> **Subject:** RE: Question on STA request rejection
>
> Hi,
>
> I don't think we have a DoD issue as that would have been mentioned by either NASA or the FCC in my conversations. They both pointed to SBE. Once we hear back from Mike we should have a clear idea about any issues they may have and would want us to agree to as part of the STA - most likely just a STOP BUZZER procedure and POC in place.
>
> Beau
>
> ---
>
> **From:** "Schulze, Ron" <Ron.Schulze@jhuapl.edu>
> **Date:** Friday, May 22, 2020 at 9:50 AM
> **To:** Mike Rhodes <mike.rhodes@cavellmertz.com>

Cc: "Backus, Beau" <Beau.Backus@jhuapl.edu>
Subject: RE: [EXT] RE: Question on STA request rejection

Understand. The investigation that Beau did seemed to suggest it was SBE. He seemed to think we needed email from this community indicating that we would coordinate our efforts and include this note in our application. Let me know what you find out.
Thanks,
Ron

From: Mike Rhodes <mike.rhodes@cavellmertz.com>
Sent: Friday, May 22, 2020 9:47 AM
To: Schulze, Ron <Ron.Schulze@jhuapl.edu>
Cc: Backus, Beau <Beau.Backus@jhuapl.edu>
Subject: [EXT] RE: Question on STA request rejection

APL external email warning: Verify sender mike.rhodes@cavellmertz.com before clicking links or attachments

I'll check. We aren't sure it was this coordination that was the issue. That's what RJ was checking on.

This band is now co-primary with DoD so SBE isn't the only user.

Mike

From: Schulze, Ron <Ron.Schulze@jhuapl.edu>
Sent: Friday, May 22, 2020 9:25 AM
To: Mike Rhodes <mike.rhodes@cavellmertz.com>
Cc: Backus, Beau <Beau.Backus@jhuapl.edu>
Subject: RE: Question on STA request rejection

Mike,
Is there an update on our STA? I cannot resubmit it until this coordination is worked out.
Ron

From: Mike Rhodes <mike.rhodes@cavellmertz.com>
Sent: Monday, May 18, 2020 1:39 PM
To: Schulze, Ron <Ron.Schulze@jhuapl.edu>
Subject: [EXT] RE: Question on STA request rejection

APL external email warning: Verify sender mike.rhodes@cavellmertz.com before clicking links or attachments

Ron,

I talked to RJ Russel about this on Friday. He knows Tony Serafini and is going to reach out to him and see if he can get any additional information on why this was returned.

Mike

From: Schulze, Ron <Ron.Schulze@jhuapl.edu>
Sent: Tuesday, May 12, 2020 3:29 PM
To: Mike Rhodes <mike.rhodes@cavellmertz.com>
Cc: Backus, Beau <Beau.Backus@jhuapl.edu>; Bonilla, Eliud <Eliud.Bonilla@jhuapl.edu>; 'Jim Dugan' <jimdugan@jetwavewireless.com>; RJ Russell <rjrussell@sbe.org>
Subject: RE: Question on STA request rejection

I have to be careful with my words☺. When I say tests I mean as it relates to the experimental license. If we have interference with local broadcasters we are in a position to easily stop our transmissions from the source located on the APL campus.
Ron

From: Mike Rhodes <mike.rhodes@cavellmertz.com>
Sent: Tuesday, May 12, 2020 3:17 PM
To: Schulze, Ron <Ron.Schulze@jhuapl.edu>
Cc: Backus, Beau <Beau.Backus@jhuapl.edu>; Bonilla, Eliud <Eliud.Bonilla@jhuapl.edu>; 'Jim Dugan' <jimdugan@jetwavewireless.com>; RJ Russell <rjrussell@sbe.org>
Subject: [EXT] RE: Question on STA request rejection

APL external email warning: Verify sender mike.rhodes@cavellmertz.com before clicking links or attachments

Thanks Ron.

Are you meaning tests related to this experimental license or tests with local broadcasters to determine interference potential?

Mike

From: Schulze, Ron <Ron.Schulze@jhuapl.edu>
Sent: Tuesday, May 12, 2020 3:07 PM

To: Mike Rhodes <mike.rhodes@cavellmertz.com>
Cc: Backus, Beau <Beau.Backus@jhuapl.edu>; Bonilla, Eliud <Eliud.Bonilla@jhuapl.edu>; Jim Dugan <jimdugan@jetwavewireless.com>
Subject: RE: Question on STA request rejection

We would like to run a few tests between now and mid-September.
Ron

From: Mike Rhodes <mike.rhodes@cavellmertz.com>
Sent: Tuesday, May 12, 2020 2:52 PM
To: Schulze, Ron <Ron.Schulze@jhuapl.edu>
Cc: Backus, Beau <Beau.Backus@jhuapl.edu>; Bonilla, Eliud <Eliud.Bonilla@jhuapl.edu>; Jim Dugan <jimdugan@jetwavewireless.com>
Subject: [EXT] RE: Question on STA request rejection

APL external email warning: Verify sender mike.rhodes@cavellmertz.com before clicking links or attachments

Thanks Ron. Jim and I will chat and get back to you soon. I know this has a short fuse.

Mike

Michael D. Rhodes, P.E.
mike.rhodes@CavellMertz.com

7724 Donegan Drive
Manassas, Virginia
20109-2868

Download Outlook Contact Info

703.392.9090 General Office
703.392.9559 Facsimile
202.332.0110 Washington, D.C. Line

www.CavellMertz.com
www.FCCInfo.com

From: Schulze, Ron <Ron.Schulze@jhuapl.edu>
Sent: Tuesday, May 12, 2020 8:27 AM
To: coordinator@sbe37.org
Cc: Backus, Beau <Beau.Backus@jhuapl.edu>; Bonilla, Eliud <Eliud.Bonilla@jhuapl.edu>
Subject: RE: Question on STA request rejection

Mike and Jim,

We submitted a special test authorization request in April 2020. The STA confirmation is EL441026, file# 0587-EX-ST-2020, submitted on 9 April 2020.

From what we can gather from our recent application there was a concern related to our test causing some interference with local TV stations. What puzzled us is that normally we'd have a chance to coordinate with the SBE on those if there's a question of possible RFI. We would like to pre coordinate our test and then resubmit our application.

Here is a narrative that will hopefully better communicate what we are trying accomplish. Our project would like to transmit to a LEO target using the APL SCF (18 meter antenna) ground station. The largest LEO target we will pointing at will have a radar cross section of 0 dBsm. The minimum range to this target is 742 km resulting in a round trip path loss being close to 320 dB. We are planning to design our test so that we do not point below 20 degree elevation. Given that we completed a similar test in 2018 with the following conditions/constraints we are assuming this pre-coordination effort will be successful.

Special Conditions:
(1) Operation is subject to prior coordination with the local Society of Broadcast Engineers, Inc. (SBE) frequency coordinator. Consult the list at http://freq.sbe.org/pdf_files/coordinators.pdf to find the appropriate coordinator.
(2) Licensee should be aware that other stations may be licensed on these frequencies and if any interference occurs, the licensee of this authorization will be subject to immediate shut down.
(3) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
(4) The authorized station must be in compliance with environmental requirement set forth in Section 1.1307 of the Commission's Rules.
(5) All operations shall be coordinated at least 3 days in advance with the NASA Goddard Space Flight Center (GSFC) Spectrum Manager, Scott Galbraith at 301.286.5089 or vincent.s.galbraith@nasa.gov, in order to ensure that concurrent operations with co-channel NASA missions are avoided.

The File Number: 0898-EX-ST-2018 Call Sign: WM9XTM.

Ron

From: Paul Blais <Paul.Blais@fcc.gov>
Date: Friday, May 8, 2020 at 11:00 AM
To: "Backus, Beau" <Beau.Backus@jhuapl.edu>
Subject: [EXT] RE: Question on STA request rejection

APL external email warning: Verify sender prvs=239751213a=paul.blais@fcc.gov before clicking links or attachments

Nice to hear from you. AOK here. You will want to call Tony Serafini who is in charge of experimental licensing. Anthony.Serafini@fcc.gov, (
(202) 418-2456

Looking at file# 0587-EX-ST-2020

I see the letter:

FEDERAL COMMUNICATIONS COMMISSION
Experimental Licensing Branch
445 12th Street, S.W., Room 7A-321Washington, D.C. 20554
April 22, 2020

Attn: Karl FielhauerJohns Hopkins University / Applied Physics Laboratory11100 Johns Hopkins Road Laurel, MD 20723

DISMISSED-WITHOUT PREJUDICE

Dear Karl Fielhauer,

This refers to application, File No. 0587-EX-ST-2020, for an experimental authorization.You are advised that the Commission is unable to grant your application for the facilities requested. Harmful interference anticipated to various TV Auxiliary Broadcasting operations.

Responses to this correspondence must contain the Reference number : 54850

Sincerely,Anthony Serafini
Chief Experimental Licensing

You are using such a large antenna surely it beamwidth will be very narrow. What would the reflected signal strength typicall be? What are the sphere's your mentioned…just RF reflective balloon? Perhaps you show a typical test path that you will use and limits of the antenna elevation sweeps. Seems like your should be able to avoid TV Auxiliary Broadcasting stations.

Paul

Branch**From:** Backus, Beau <Beau.Backus@jhuapl.edu>
Sent: Friday, May 8, 2020 10:01 AM
To: Paul Blais <Paul.Blais@fcc.gov>
Subject: Question on STA request rejection

Hi Paul,

I hope you've been doing well in this pandemic lifestyle we're living. Personally, I'm suddenly without excuses on why I shouldn't be out helping with the garden. Challenging times!

Recently some of the folks here at Johns Hopkins Applied Physics lab were turned down for a STA application and they're a bit puzzled for the rejection. Who would be a good person for me to chat with on this? The STA confirmation is EL441026, file# 0587-EX-ST-2020, submitted on 9 April 2020. From what I can gather, the concern was for local TV stations. What puzzled me is that normally we'd have a chance to coordinate with the SBE on those if there's a question of possible RFI.

The engineers requesting the STA are attempting to "support of some DARC short term measurements using the APL SCF as the transmitter and MRC antenna to receive backscatter from LEO calibration spheres."

This has been done before and they've simply planned their operations around any constraints given. The last time they did this, these were the constraints:

Special Conditions:
(1) Operation is subject to prior coordination with the local Society of Broadcast Engineers, Inc. (SBE) frequency coordinator. Consult the list at http://freq.sbe.org/pdf_files/coordinators.pdf to find the appropriate coordinator.
(2) Licensee should be aware that other stations may be licensed on these frequencies and if any interference occurs, the licensee of this authorization will be subject to immediate shut down.
(3) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
(4) The authorized station must be in compliance with environmental requirement set forth in Section 1.1307 of the Commission's Rules.
(5) All operations shall be coordinated at least 3 days in advance with the NASA Goddard Space Flight Center (GSFC) Spectrum Manager, Scott Galbraith at 301.286.5089 or vincent.s.galbraith@nasa.gov, in order to ensure that concurrent operations with co-channel NASA missions are avoided.
Jonathan

This was File Number: 0898-EX-ST-2018 Call Sign: WM9XTM.

-

I'll call Scott Galbraith and ask him if he knows anything about this from the NASA perspective.

-

Any ideas or suggested people I should reach out to?

-

Many Thanks! (from my home-bound center of operations!)
Beau

-

-