

See Page 5 for information on June 13 membership program.

## June 2020 Newsletter

**Big Island Amateur Radio Club**

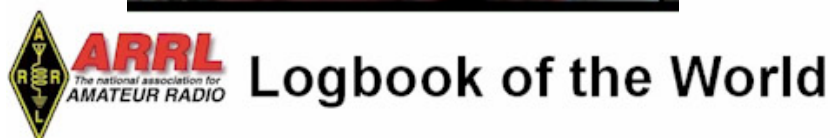
**Check BIARC Listserve:**  
~ For Zoom link prior to June 13 club sessions (noon board meeting and 2 p.m. program) ~

Screenshots by WH6DVI & WH6LQ

ARRL Logbook of the World  
QUESTIONS???

Mike Cizek WØVTT

zoom



## May focus was on ins/outs of LoTW

Mike Cizek, WØVTT, of Minnesota was the guest presenter for our monthly BIARC "meeting" on Saturday, May 9.

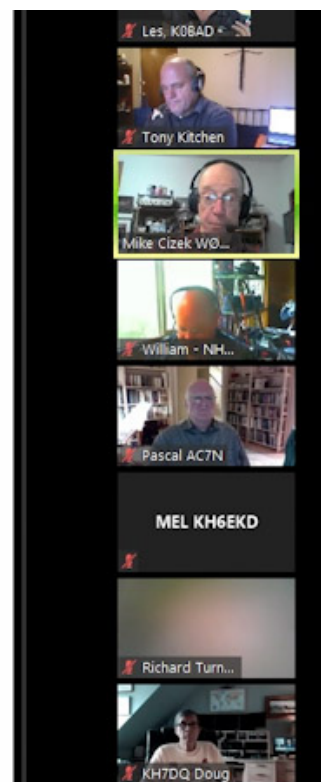
On Zoom, Mike discussed ARRL's Logbook of the World (LoTW) and

Station	
Call Sign	K0TV
DXCC	UNITED STATES OF AMERICA (291)
CQ Zone	05
ITU Zone	08
Grid	FM18
State	Maryland (MD)
County	Prince George's
Worked Station	
Worked	UO5ON
DXCC	MOLDOVA (179)
CQ Zone	16
ITU Zone	29
Grid	KN47JA
Date/Time	1990-01-30 15:22:00
Mode	CW (CW)
Band	10M
QSL	<a href="#">2020-03-30 17:01:28</a>
Record ID	1000550215 Received: 2018-12-21 19:50:08

WØVTT 16.III.2020

fielded questions during a visual presentation.

BIARC Secretary Les Hittner arranged the program for us after viewing it via a Zoom session with the Winona (Minnesota) Amateur Radio Club.



## The President's Corner



**William Polhemus, NH6ET**

### Do you see what I mean?

*"There is a profound difference between information and meaning." – Warren Bennis PhD*

The elephant has been in the room far too long. Our avocation of a amateur radio has technologically progressed faster than the regulatory framework upon which it stands. Trails are being blazed, while simultaneously innovation is being suppressed by fear and uncertainty. Questions have gone unasked, out of fear of an uncertain answer. In just two years I have been asked at least six times: can an amateur radio operator, using a digital mode, transmit a potentially encrypted file for a hospital during a disaster? Well, I say almost certainly maybe.

And, I am on a mission to find out.

I just heard someone do a spit-take while reading that. Yup, indeed, I stand by my statement; it may be possible. No, I'm no lawyer, I have a soul. But, I did make a career out of interpreting and applying the law. To me, the regulatory framework in Part 97 is so vague on this topic. However, I am confident that my interpretation may just pass muster. Hear me out.

#### The illustrative example scenario:

A disaster has occurred, affecting Hawaii Island. A tourist is stranded in Hilo. The tourist requires dialysis, but has no existing physician order on file at the dialysis center in Hilo. A physician's order detailing the care instructions is needed; but no physician is at the dialysis center. A request for the physician's orders needs to be sent to a physician, and the normal routes of communication for such a request are not available, causing the dialysis center to rely on an amateur radio operator to assist them with their communications.

The dialysis center only uses encrypted files for requests of this type, due to HIPPA requirements. The amateur

radio operator controlling the station – let's call him Jim – receives an encrypted file containing the patient's medical information and the request for the physician's orders. He is asked to send that file to an amateur station at a hospital, where another amateur radio operator – let's also call him Jim – can get the request relayed to the physician.

#### The problem:

The amateur radio operator will be sending a message, a portion of which is encrypted, and the encryption cypher of which is unknown. Can the amateur radio operator serving as the control operator of the station at the dialysis clinic legally transmit a message containing the encrypted file using a modern digital mode?

Part 97 is largely silent on the matter of encryption. No, really, take a look. The word encryption does not appear in the text anywhere. §97.113(4) prohibits amateur radio operators from transmitting "messages encoded for the purpose of obscuring their meaning, except as otherwise provided herein." That almost sounds like encryption. But it's actually how they define the different digital modes – as codes. Though, it is within that language that we find perhaps our only guidance on the

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matter. There is a later reference to 'cyphers,' which is the core concept of encryption, so we can see that they are indeed distinct concepts, and the authors of Part 97 seem to have acknowledged that. To encode is to frame data into a digital signal; to encrypt is to apply a cypher to that encoding, to disguise it.

Note that in either case §97.113(4) is not an all-out prohibition on transmissions of this type. There are allowances throughout Part 97 for transmitting messages with their meaning obscured, both by the use of unknown encodings, and by the use of cyphers. And, this language certainly seeks to explicitly permit them. More on all of that in a bit.

A prohibition on "messages encoded for the purpose of obscuring their meaning" does not itself prohibit messages encoded for purposes other than obscuring their meaning; even if the net effect of doing so is that the meaning is actually obscured. Further, it would seem that if the meaning of the message is declared in language that is unobscured, the encrypted payload would not seem to be an issue.

**Hey naysayers - Double Whammy!!!**

## So, just what is a message, anyway?

Here's the rub though, nowhere in Part 97, or even in the entirety of Title 47 of the Code of Federal Regulations, is there a definition for what the meaning of a message is. Does a statement describing the intent of the communication suffice? What is the meaning of a meaning?

At first glance, Webster's definition does not help much: "The logical connotation of a word or phrase." But like in Part 97, there is somewhat of a nugget of guidance to be had. "The connotation of a word or phrase." They define a connotation as "something suggested by a word or thing." If merely suggesting what a word or phrase intends gives it meaning, than surely explicitly describing it does at least that much. So, if we announce in our message the purpose of the message, it would seem to me that we have met our responsibility.

Now, as I said above, and

contrary to the word on the street, in several places Part 97 explicitly permits sending obscured messages, as long as it is not being done with ill intent. §97.309 "RTTY and data emission codes" contains the following:

**"(4)(b) Where authorized by §§97.305(c) and 97.307(f), a station may transmit a RTTY or data emission using an unspecified digital code, except to a station in a country with which the United States does not have an agreement permitting the code to be used. RTTY and data emissions using unspecified digital codes must not be transmitted for the purpose of obscuring the meaning of any communication. When deemed necessary by a Regional Director to assure compliance with the FCC Rules, a station must:**

- (1) Cease the transmission using the unspecified digital code;**
- (2) Restrict transmissions of any digital code to the extent instructed;**
- (3) Maintain a record, convertible to the original information, of all digital communications transmitted."**

Again in §97.311, which covers Spread Spectrum, the same language and potential caveats appear. We see that

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Register for a ZOOM based test session at <http://hameducation.org/register>

Due to member interest, here's a brief repeat of the recent announcement about amateur radio licensing testing online via Zoom.

During April, a team of Oahu EARC Volunteer

Examiners (VEs) began doing the testing.

Hawaii (and other Pacific area) candidates have the opportunity to test with the EARC VE group.

Register for a ZOOM based test session at <http://hameducation.org/register>.

*(Courtesy ARRL Pacific Section: Section Manager Joseph Speroni, AH0A*

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the FCC is OK with it. But, they reserve the right to step in and put some restrictions in place if it gets abused.

In our example of a Winlink email message being sent, we are already complying with the third caveat; without them ever having imposed it. We are maintaining a copy of the digital communication convertible to its original information. Your Winlink client is doing that for you at your station. The system is also saving a copy, and the recipient also has a copy. We're ahead of the curve. We're positively swimming in potential accountability, up to our eyeballs! Perhaps that in itself is a good case for using the Winlink modes for something like this. That kind of accountability isn't there with many of any of the other peer to peer modes.

So, it seems to me that we are on solid ground. We not only have a way to comply with the actual word of law – by explicitly describing the meaning of our message – but we are operating within the intent of the law, which created the allowance for using unspecified digital codes, as long as we do it with the intent to hide what we are doing. And, we've gone a step further, and have saved a copy for future examination, should we ever

need to prove that we were not lying about the meaning of our message.

But, I for one am not going to take my word for it, and you shouldn't either. I'm working to get a definitive answer, from our lawyers at the ARRL. I have been in touch with the ARRL leadership, and am asking them to again have the lawyers review this matter, this time from my perspective. You see, years ago they were asked about this. I imagine that it went something like: "Hey what about sending encrypted healthcare records during a disaster; you know, to comply with HIPPA?" But, they bunted. They replied with something like: "HIPPA doesn't require encryption, so we don't need to worry about it. So, tell the doctor to write more clearly next time." And while at that time it may have been true that HIPAA did require encryption, it certainly does now. And, perhaps more importantly, the agencies and healthcare partners we seek to assist during disasters require encryption. If we are to be there for them, we need to work around that.

So it goes. I am stirring the pot. I'm good at it. And, what I'm cooking smells good. I'll share when it's done.

-- NH6ET



## Aloha Chapter of 10-10 International

Local hams active on 10-meters encourage amateur radio licensees at all levels to join in the fun.

[More info on the world of Ten-Ten is available on Facebook and at <https://www.ten-ten.org>]



## June 13 focus will be on future of Big Island ham radio infrastructure

The June BIARC membership session will be an overview of what we envision for the Big Island ham radio infrastructure, says program committee chairman and Vice President Jim Huntley.

President William Polhemus will start with a brief presentation of the repeaters and how they may be RF linked to create a high speed data backbone.

Then Treasurer Tony Kitchen will give an overview of the mesh

networking islands and how they could tie in to the repeater linking backbone.

Lastly, Jim will speak to how this interconnectivity can be used for digital applications like APRS, VOIP phone, packet, winlink and more.

(Remember:

Check BIARC Listserve prior to June 13 program to access the Zoom link to join in BIARC Board meeting at noon and membership session at 2 p.m.)

### Past BIARC President Tom Thornton, AH6ZZ, silent key

Tom Thornton, AH6ZZ (former call NH7EJ), passed away on April 18 on the island of Oahu.

Tom and his wife, Maria, lived here on the island of Hawaii for a short time. Tom was the president of BIARC in 2011.

After Tom was diagnosed with Parkinson's, they felt they should return to Oahu.

Warren Munro, KH6WM, reported that Tom was a wonderful person, well known as a dedicated 40 meter mobile operator on local HF nets while living and working in Honolulu.

Tom was an early graduate of UH Hilo and a retired US Navy officer.

There were to be no services, as his body was donated to the University of Hawaii medical school.

Chuck Epperson, AH6SC, who works at Tripler Medical Center, and Warren visited with Tom while he was a patient there.

Tom will be missed by the ham community.

*RIP 73,  
Barbara Darling, NH7FY*

### Stay tuned: Friday lunches at the Ponds may begin again July 3

Since it was announced that restaurants could reopen June 1st, some of the hams wondered when we would be resuming our Friday lunches.

I have called the Ponds and they have decided to be on the safe side and they will reopen on July 1st.

If this doesn't change in the next month, I figure we will have our first Ham Radio lunch on Friday, July 3rd, at 11:30 a.m.

Thank you.

*Barbara, NH7FY*



## BIARC Board Meeting

May 09, 2020

### A. Meeting called to order at 1229

Delay caused by difficulties signing into the Zoom Room.

#### Role Call: Present (6) Quorum (4)

#### Board Members:

William Polhemus – President  
James Huntley – Vice President  
Leslie Hittner, Secretary  
Tony Kitchen, Treasurer  
Mel Uchida  
Bob Schneider

Absent: Paul Ducasse

Visitors: Leigh, WH6LC, Glen, AH6IO, John, KH6DLK, Roy Kunishige, WH6FYK

#### Minutes of last Board meetings: Regular meeting on 04/11/2020

William **moved** and James **seconded** that the minutes be approved as published and distributed by email. Motion **passed**.

#### Treasurer's Report: The treasurer's report was submitted in writing as two reports; an Operating Statement and a Disbursements Report

The Fund balances for the end of April 2020 are:

Repeater fund	\$ 723.25
Emergency Reserves	\$1,000.00
General Fund	\$2,096.57
Total Funds	\$3,819.82

Financial system is better than it was a month ago. On-line dues payment system has been implemented. Mel asked about "donations" as the only option and Tony stated that he is working on a dues entry form and will add that option in the near future. In the meantime, everything comes as a donation, but members can specify "dues" in the comments box.

Mel **moved** and William **seconded** to accept the Treasurer's Report. Motion **passed** by a unanimous vote.

### B. Committee Reports:

(1) **Digital Systems** (No written report): William stated that the Digital Systems and Voice Repeaters Committees held a joint meeting. William continued with a verbal outline of the topics discussed:

- a) Kulani Repeater build-out and timeline required the procurement of a VHF/UHF antenna tuner for roll-out onto the non-resident (former FBI) antenna currently installed on the County tower. This will be a temporary situation until we have

permission to climb the tower and replace it. Note: The County requires all climbers to be certified and William and one of his employees meet that criterion.

William **moved** and Les **seconded** to allocate \$200 for the purchase of a VHF/UHF antenna tuner. Motion **passed** unanimously.

- b) William next discussed the purchase of the permanent dual-band antenna for this repeater. He noted that the existing feedline was in good condition, but that a new jumper for the connection to the new antenna would be required. An addition, the club's desire to install a digital node on the tower (APRS, Winlink, etc.) would require a second antenna. The County permission to BIARC is for only one antenna location on the tower, so if two antennas are to be installed, they must be on the same mount, installed as a Siamese mounted system (one antenna being upside-down) on the same mount. Such close spacing allows only for 30 dB of isolation, so additional filters and wide frequency spacing will be important. This second antenna would also require an additional feedline, which the club already has access to. Upon the installation of these new antennas, the VHF/UHF tuner could be removed and possibly sold as a fundraiser.

William stated that the committees have recommended the purchase of one or more Diamond X-50NA (N-connector) antennas at approximately \$90 each for this purpose. While these antennas might not outlast a commercial-grade antenna, they do meet the wind speed survival requirements and are far less costly than \$1000 – or more – commercial antennas.

William **moved** and Tony **seconded** to purchase two (2) Diamond X-50NA antennas and mounting hardware, with a maximum expenditure of \$300. The motion **passed** unanimously. Tony stated that some of the money will come out of the Repeater Fund and the rest out of the donated repeater funds.

If Diamond engineers cannot certify watertight integrity when installed upside-down, then only one antenna will be purchased.

The club may take up Jim Tater's offer to swap duplexers, if needed, to use the top tower antenna for receive-only.

- c) Mauna Loa repeater may be deployed soon, as William may have some commercial obligations on that site soon and would take it then.
- d) William then described that the Kulani Cone build-out with a commercial quality donated Motorola repeater would free-up the DR-2X repeater currently in use. He stated that the combined committees are requesting that this and other Fusion equipment (a couple of DR1-X units) the club owns be used to build a second Fusion-based C4FM repeater network on the east side of Hawaii Island.

William **moved** and Tony **seconded** to commit BIARC to re-deploying Fusion equipment in order to establish an interconnected Fusion-based repeater system along the east side of the Big Island. The motion **passed** unanimously.

- e) Some surplus equipment may make it possible to deploy a tactical repeater at Laupāhoehoe.

- f) William then discussed the disposition of a number of surplus transceivers (mobile units) and stated that the combined committees had suggested that they be made available to club members who wished to develop and complete unique projects that would benefit the club as a whole.

William **moved** and James **seconded** that the board adopt the policy that the Digital Systems Committee may consider applications from members for the use of club equipment for projects that will benefit the community as a whole. The motion **passed** unanimously.

- g) The joint committees ended with a discussion about microwave digital links including AREDN and UNBIQUIT links that might allow the club to offer resources for security cameras, data transmission, etc. at DWS-approved repeater sites. There were no recommendations from the committees at this time.

#### 2) Education and Outreach (Written report): Leslie Hittner, Chair of the Education and Outreach Committee, discussed the following:

- a) Created a BIARC Newsletter share folder on Dropbox.
- b) Reached out to a tax attorney (Torkildson, Katz, Hetherington) in Hilo concerning assistance with completion of a 1023-EZ application for 501c3 status. No response yet. Will contact others.
- c) Kea'au Community Center Director responded and said that at the present they do not have room to store a library cart. Will have to consider a design that can be easily loaded/off loaded from a pickup.
- d) Doug Wilson has been monitoring Joe Sperone's remote testing team on Oahu for the last several weeks. It's a very involved process and Doug is not sure, at this point, that it would be worthwhile for us to get a team certified here on the Big Island. He is continuing to look into it though.
- e) Should we consider mailing Membership Booklets to new members?

William **moved** and Tony **seconded** to send via USPS printed Membership Booklets to new members that had not received them prior to social distancing. The motion **passed** unanimously.

#### 3) Operating Activities (No report): There are no current operating activities being planned.

#### 4) Program (No written report): James Huntley, Chair stated that we will have a LoTW presentation via Zoom later today. The June meeting too, could then be based on Zoom. There then was some related discussion. Much will depend on the success of today's Zoom presentation. Then we could consider a NET or another Zoom presentation. Les stated that he would record the Zoom presentation. Leigh has asked if such a recording could then be made available on-line. William suggested that it be placed in a share folder on Dropbox for download and a link to the recording(s) placed on the website. Dropbox would also be able to compile data as to the number of downloads.

William then said he was considering producing repeater coverage maps and asked if they could also be made available on the website.

Tony said "yes" on both counts.

#### 5) Public Service Communications (No written report): Tony, Chair of the Public Service Communications Committee, discussed the following:

- a) Proposed MOU with County Dept. of Water Supply: The re-write of the proposed MOU with Hawaii County Department of Water Supply (DWS) was sent to PSC Committee members and the BIARC President. Everyone liked the new changes and were comfortable with William taking it to Hawaii County DWS.
- b) ARES / ARC Exercise: May 30: Tony recommended that BIARC offer support to ARES in the publication of and training for this exercise, encourage our members to participate, and provide ARES with names and contact points of those stations prepared to participate.
- c) ARES 2020 SET Exercise: Oct 3: Additional information will be published at <http://HawaiiARES.info> as it is developed. A number of board members were critical of the 2019 SET and were hoping for improvements. Suggestions included setting up an ACS station at HCCDA and involving CERT Teams.
- d) HEARDN Meeting: Tony also discussed the Hawaii Emergency Amateur Radio Data Network meeting, where they viewed a presentation from William about our plans to build a microwave backhaul network that might interface with the HEARDN system. William may make the same presentation to the BIARC members in the future.
- e) Big Island VOAD: This organization is becoming more active in installing repeater infrastructure on the West coast and becoming more active.

#### 6) Voice Repeaters (No written report): See the combined report under B.1 above.

### C. New Business:

#### (1) BIARC support/participation in the ARES / ARC May Exercise: This was discussed in item B.5 above.

Tony **moved** and Les **seconded** that BIARC support the May 30 ARES/ARC exercise through publicity and training and adopt it as an official activity under the Operating Activities Committee. After some discussion, the motion was **passed** unanimously.

#### (2) Field Day is cancelled. See B.5

#### (3) BIARC involvement in the ARES 2020 SET (We've been invited.)

Tony **moved** and William **seconded** that BIARC support the ARES SET exercises through publicity and training and adopt it as an official activity under the Operating Activities and Public Service Communications Committees in perpetuity. After some discussion the motion **passed** unanimously.

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## NASA mission to study how sun generates and releases giant solar particle storms into planetary space

A new NASA mission making use of a half-dozen CubeSats will study how the sun generates and releases giant space weather storms -- known as solar particle storms -- into planetary space. **(see photo, below)**

"Not only will such information improve understanding of how our solar system works, but it ultimately can help protect astronauts traveling to the moon and Mars by providing better information on how the sun's radiation affects the space environment

they must travel through," NASA said of the new Sun Radio Interferometer Space Experiment (SunRISE) project.

The mission will involve an array of six CubeSats operating as one very large radio telescope.

NASA has awarded \$62.6 million to design, build, and launch SunRISE as early as mid-2023.

### D. Old Business:

- a) **Club T-Shirts:** There has been no progress. This item will remain on the table for now and can be addressed when social distancing requirements have been modified.
- b) **By Laws Amendment Auxiliary Membership Definition:** Les presented a written report that dealt with the actual amendment as well as the process for approving such an amendment. He suggested that this process could wait until the November Annual Meeting.

Les moved and Tony seconded that the BIARC By Laws be amended as follows:

**"ARTICLE I of the Big Island Radio Club Constitution be amended as follows:**

Section 1, Paragraph 2.

**Strike:** Members who do not have Amateur Radio Licenses

**And replace with:** Members who do not have Amateur Radio Licenses or whose Amateur Radio Station License address is not on Hawai'i Island."

and that this proposal to amend the Constitution be placed on the agenda of the November 2020 Annual Meeting. The motion **passed** unanimously.

Tony then asked if Les could write an article for the Newsletter explaining the need for the two amendments being proposed by the board as well as the process that will be followed. Les agreed to do so.

- c) **MOU with the County of Hawai'i Department of Water Supply:** See item B.5 above.

(4) **Equipment Donations:** This item has been settled.

(5) **BIARC Lending Library:** In committee.

### E. Other Business: None.

**Adjourn:** There being no further business, William adjourned the meeting at 1343.

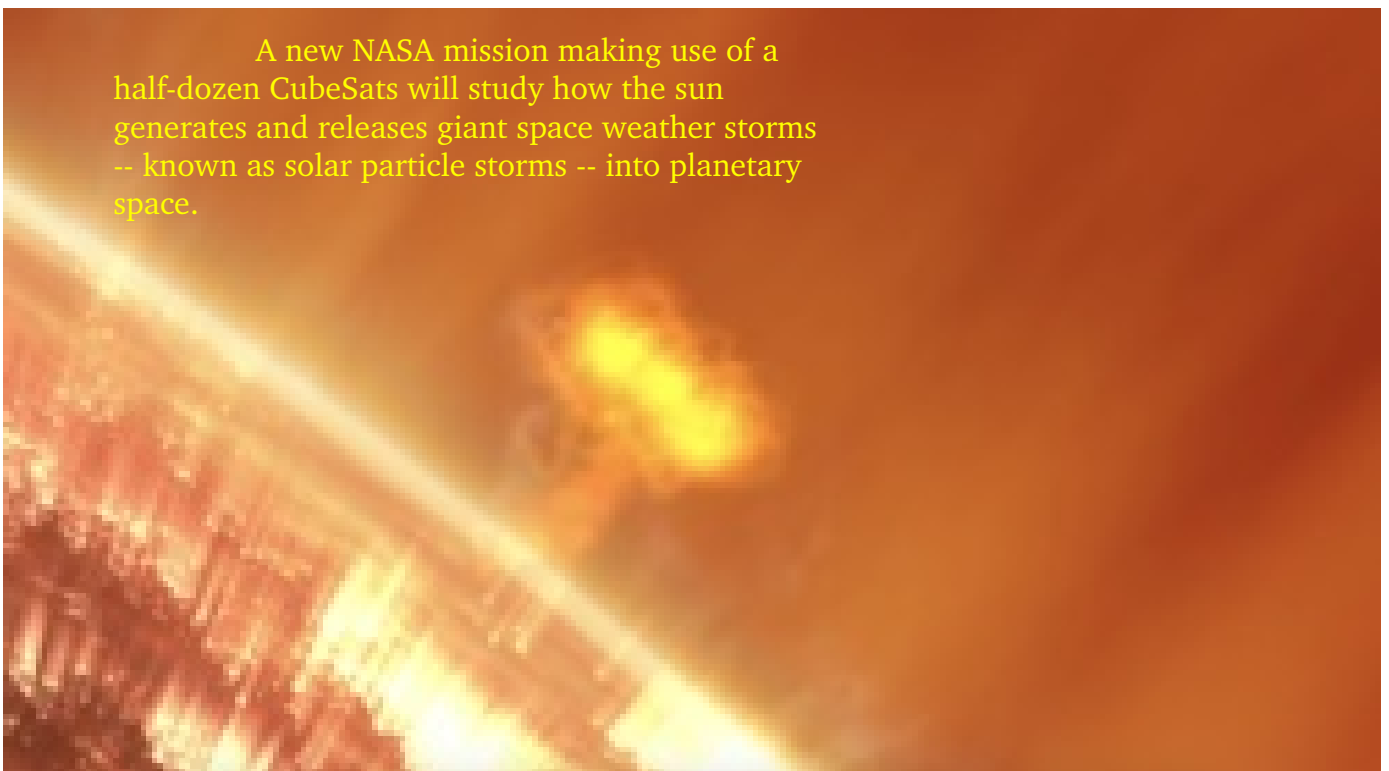
Respectfully Submitted,

*Leslie D. Hittner*

Leslie Hittner, Secretary

Enc: Proposed DWS/BIARC MOU  
PSC Committee Report  
Education and Outreach Committee Report

A new NASA mission making use of a half-dozen CubeSats will study how the sun generates and releases giant space weather storms -- known as solar particle storms -- into planetary space.







## Amateur radio gains significant boost in UK by connecting people during lockdown

A recent [BBC news feature](#) has outlined how ham radio has gotten a significant boost by connecting people during the COVID-19 lockdown in the UK. The article, by Vanessa Pearce, quotes the Radio Society of Great Britain (RSGB) -- the UK's IARU member-society -- as saying that many former hams are now returning to the hobby. Mark Rider, G3VHJ -- a retired engineer who lives alone in North Warwickshire -- said that after the lockdown restricted his occasional trips to the pub, rehearsing with musician friends, and visiting his wife in a nursing home, he decided to dust off his ham radio equipment "to seek out



**Mark Rider, G3VHJ.**

some other social interaction." Rider said that ragchewing has become one of the highlights of his day. "Just speaking to somebody else in the same situation is very rewarding," he said. The 67-year-old told BBC News that keeping in touch with others has been more important since his wife suffered a stroke.

RSGB General Manager Steve Thomas, M1ACB, said the society has experienced a three-fold increase in license examination

applications since social distancing rules were put into place. The UK has about 75,000 amateur licensees.

Eleven-year-old Anne-Marie Rowland, 2E0RUX, of Cornwall, worked with the Cornish Amateur Radio Club to conduct informal twice-weekly nets to help keep people in touch. "We have some regulars, but also some new people join in," she told the BBC. Her father, Bill, M0NXXF, runs a net that has attracted older radio amateurs who are self-isolating, to help them feel connected.

The RSGB recently instituted its "Get on the Air to Care" ([#GOTA2C](#)) campaign in conjunction with the National Health Service and its GB1NHS amateur station to promote amateur radio use during the pandemic lockdown. Some stations have been adding /NHS to their call signs to support the effort, which aim to support the emotional health and wellbeing of the amateur radio community.

The RSGB introduced remote administration of entry-level Foundation-class amateur radio exams in mid-April. Pete Sipple, M0PSX, told BBC News that he's seen a "massive" surge in demand for training courses and exam session and has had to up the number of course offerings.



**Ann-Marie Rowland, 2E0RUX.**