

THE PLATTSMOUTH AMATEUR RADIO CLUB

Communicator

October 2019

FCC Proposes to Make All Universal Licensing System Filings Electronic

(ARRL 09/09/2019) The FCC is seeking comment on a Notice of Proposed Rulemaking (NPRM) that is part of an overall plan to transition completely to electronic filing, licenses, authorizations, and correspondence. The notice proposes to make all filings to the Universal Licensing System (ULS) completely electronic, expand electronic filing and correspondence elements for related systems, and require applicants to provide an email address on the FCC Forms related to these systems. Although much of the FCC's ULS filings are already electronic, the changes suggested in the NPRM (in WT Docket No. 19-212) would require all Amateur Radio Service applications to be filed electronically. Under current rules, Amateur Radio applications may still be filed manually, with the exception of those filed by Volunteer Examiner Coordinators (VECs).

"Given the drastic changes that have occurred with regard to the ubiquity of the internet and increased personal computer access, we find it unlikely that electronic filing remains infeasible or cost-prohibitive for the previously exempted types of filers, or that they lack resources to file electronically," the FCC said in the NPRM, which was released on September 6. "We therefore propose to eliminate Section 1.913's exemptions to mandatory electronic filing."

The FCC said that while the vast majority of ULS applications today are submitted electronically, some are still manually filed, largely from exempted filers, such as radio amateurs. Last year, the FCC received some 5,000 manually filed applications out of a total of some 425,000 applications. Among other aspects, the FCC is seeking comment on whether its underlying assumptions about the ease of electronic filing for previously exempted filers are valid.

This NPRM also seeks comment on additional rule changes that would further expand the use of electronic filing and electronic service.

"Together, these proposals will facilitate the remaining steps to transition these systems from paper to elec-

tronic, reducing regulatory burdens and environmental waste, and making interaction with these systems more accessible and efficient for those who rely on them," the FCC said.

Comments are due within 30 days of the NPRM's release.

<http://www.arrl.org/news/fcc-proposes-to-make-all-universal-licensing-system-filings-electronic>
<https://docs.fcc.gov/public/attachments/FCC-19-87A1.pdf>

Festival of Frequency Measurement Set to Honor WWV Centennial

(ARRL 09/18/2019) HamSCI and the Case Amateur Radio Club of Case Western Reserve University (W8EDU) will sponsor a "Festival of Frequency Measurement" on WWV's centennial, October 1, from 0000 to 2359 UTC (starting on Monday evening, September 30, in the Americas). The event invites radio amateurs, short-wave listeners, and others capable of making high-quality frequency measurements on HF to participate and publish their data to the HamSCI community on the Zenodo open-data sharing site.

"Changes in ionospheric electron density caused by space weather and diurnal solar changes are known to cause Doppler shifts on HF ray paths," the event announcement says. "HamSCI's first attempt at a measurement of these Doppler shifts was during the August 2017 total solar eclipse. We plan a careful measurement during the 2024 eclipse."

Some of the questions the research event is hoping to answer include how WWV's 5 MHz propagation path varies over a given calendar day, and how various measurement techniques for understanding the path variations compare. The objectives are to measure Doppler shifts caused by the effect of space weather on the ionosphere, and to use a specified measurement protocol available to Amateur Radio operators and other citizen-scientists. The experiment will use August 1, 2019 (UTC) as a control date.

"The recordings in this experiment are expected to show formations of the D-layer at stations' local sunrise and other daily events of the ionosphere," the announce-

(Continued on Page 3)

2019 PAID MEMBERSHIP

- AGØLSteve Loyd [E]
- AIØN..... Chuck Engberg* [E]
- KØEGG.....John 'Tim' Eggertsen [G]
- K3CRF Dave Smith [E]
- K5LBS Jerry Gault [E]
- KA0IJY Keith Keene [E]
- KBØFSI Pat McCollum [T]
- KBØLF Fred Eriksen [E]
- KBØOGO Roger Behrns* [E]
- KBØZZT George Bellairs [T]
- KCØDTK Joan Bellairs [T]
- KCØHYD John Titsworth [G]
- KCØHYE Shirley Titsworth [T]
- KDØNMD Dudley Allen [G]
- KEØBXB Kim Allen [T]
- KEØXQ Bill McCollum [E]
- KGØKR Beth Engberg* [E]
- KIØPY Kevin Faris [E]
- NØLZH John Harrington [T]
- WØDBW Derek Winterstien [G]
- WØZY Dave McLaughlin [E]
- WØZYD Debbie McLaughlin [G]
- W3DCQ Bill Pulsifer [G]

**Charter Members #New Ham*

Note: Thanks to all who have paid their dues and many who have given additional donations. All donations are greatly appreciated. Please let me know of any corrections.

**PLATTSMOUTH AMATEUR
RADIO CLUB
KBØSMX**

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Maintained by Derek (WØDBW)

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**MINUTES of
the
MEETING**

The August 31, 2019 meeting was held at Mom's Café. The meeting was called to order at 8:00 am by President Roger Behrns

Those in attendance were Roger (KBØOGO), Kevin (KIØPY), Keith (KA0IJY), Gary (WØDBW), Derek (WØDBW), Ray (N5SEZ), Chuck (AIØN), John (KCØHYD), and Bill (KEØXQ)

The Minutes of the July meeting were approved on a motion by Gary and second by Chuck.

The treasurer reported no activity which leaves \$305 in the repeater fund and \$695.35 in the general fund for a balance of \$1000.35. The report was approved on a motion by Gary and second by Keith.

It was noted that the Nebraska QSO party will be held September 7. Details are on the QCWA website at www.qcwa.org/chapter025.htm.

The meeting adjourned on a motion by Bill and second by Gary at 8:07.

Meetings are 8am the last Saturday of most months at Mom's Café in Plattsmouth.

Tuesday night get-togethers at Plattsmouth Burger King at 7 PM



PLATTSMOUTH ARC MEMBERSHIP REGISTRATION FORM					
Name		Call Sign		Class	
Address		City		State	Zip
E-Mail			Phone #		
Spouse Name			Call Sign		Class
Membership Type <input type="checkbox"/> Primary (\$15) <input type="checkbox"/> Spouse (\$5) <input type="checkbox"/> Student (\$5) <input type="checkbox"/> New Ham	<ul style="list-style-type: none"> ● Additional donations are gratefully accepted. ● New Hams are free during the year they receive their first license. ● Please give this form and dues to the club treasurer or any club officer. 		Donation for: <input type="checkbox"/> Repeater fund <input type="checkbox"/> Insurance <input type="checkbox"/> Other _____ <input type="checkbox"/> General	Amount: <input type="checkbox"/> I prefer my donation to be anonymous.	
Any additional e-mail or cell phone #s?					

Meeting Calendar

8am, Sat Sept. 28, 2019
8am, Sat Oct. 26, 2019
8am, Sat Nov. 30, 2019
at Mom's Café
No Meeting in December

ment said. "Space weather varies day to day and some features may be prominent. We'll see what we get!"

Full information is on the Festival of Frequency Measurement website.

<http://www.arrl.org/news/festival-of-frequency-measurement-set-to-honor-wwv-centennial>

<https://hamsci.org/wwv-centennial-festival-frequency-measurements>

<https://zenodo.org/communities/hamsci/>

Amateur Radio CubeSats among 15 Set to Launch on October 21 from Wallops Island

(ARRL 09/17/2019) AMSAT reports that an Antares II launch vehicle will carry 15 CubeSats into orbit on October 21 as part of NASA Educational Launch of Nanosatellites (ELaNa) Mission 25. Some will carry Amateur Radio payloads.

•TJ REVERB, developed by students at Thomas Jefferson High School in Alexandria, Virginia, will carry a 145.825 MHz APRS digipeater.

•HuskySat, a University of Washington – Seattle project, will be boosted into a 500-kilometer (approximately 310-mile) orbit via the Cygnus external deployment device. HuskySat will carry a V/U linear transponder provided in cooperation with AMSAT.

Other satellites announced for the ELaNa 25 launch include Argus (St. Louis University), 437 MHz telemetry; AzTechSat-1 (NASA Ames Research Center) 437 MHz telemetry; CySat (Iowa State University) 436 MHz telemetry; Phoenix (Arizona State University) 437 and 2400 MHz telemetry; RadSat-U (Montana State University) 437 MHz telemetry; SPOC (University of Georgia) 437 and 2400 MHz telemetry, and SwampSat II (University of Florida) 437 and 2400 MHz telemetry. — Thanks to AMSAT News Service

<http://www.arrl.org/news/amateur-radio-cubesats-among-15-set-to-launch-on-october-21-from-wallops-island>

<https://activities.tjhsst.edu/cubesat/index.php>

<https://sites.google.com/uw.edu/huskysatellitelab/huskysat-1>

Report: North Korea Testing Digital Broadcasting on 80 Meters

(ARRL 09/16/2019) Radio World reports that the People's Democratic Republic of Korea (North Korea) has resumed testing digital radio broadcasting on the 80-meter amateur band after a 2-year absence. North Korea is transmitting with the Digital Radio Mondiale (DRM) protocol. The latest transmissions on 3.560 MHz began in mid-August.

"It appears unclear at this time, however, whether the current series of transmissions will soon end or be the start of a regular service," Radio World said. "According to radio enthusiasts in the region, the signal has been clear

and very audible."

Radio World says Voice of Korea, the North Korean international broadcasting service, has conducted DRM trials off and on since 2012.

<http://www.arrl.org/news/report-north-korea-testing-digital-broadcasting-on-80-meters>

<https://www.radioworld.com/news-and-business/north-korea-resumes-drm-broadcasts>

<http://www.drm.org/>

ARRL Renews Request for FCC to Replace Symbol Rate with Bandwidth Limit

(ARRL 09/18/2019) In ex parte comments filed on September 17 in WT Docket 16-239, ARRL renewed its request that the FCC delete symbol-rate limits for data transmissions in the Amateur Service rules. As it did in its initial filing, ARRL asked the FCC to couple the removal of the symbol rate limits with the adoption of a 2.8 kHz bandwidth limit. In response to a 2013 ARRL Petition for Rulemaking (RM-11708), the FCC proposed deleting the symbol-rate limits but declined to replace them with the 2.8 kHz bandwidth that ARRL wanted.

"This proceeding addresses an update to the Commission's rules that is needed because a limitation in the rules unintentionally is inhibiting US amateurs from employing the latest improvements to some of the digital modes," ARRL said in its remarks. "Data signals commonly used for daily communications as well as in disaster situations have bandwidths in the range of 2.5 kHz and must co-exist with other modes that use bandwidths as narrow as 50 Hz."

ARRL said the 1980s-era symbol-rate limits now inhibit the use of some efficient data modes. "The symbol rate limit uniquely prevents radio Amateurs in the United States from experimenting and innovating with a class of modern digital communication techniques that already are widely used in other countries," ARRL told the FCC. "The limit also impairs the ability of Amateurs to improve support that they offer in times of disaster."

Repealing the symbol-rate limit would "allow shortened transmission times for the same amount of data without increasing the bandwidth occupied by the signal," ARRL contended. "Other Amateurs would benefit by the resulting reduction in potential interference."

ARRL's remarks also addressed issues raised by other parties. "Discussion by commenters in this proceeding delve into subjects well beyond its scope," ARRL said, noting that it had attempted to broker consensus among "some of the most active commenters" with an eye toward exploring possible areas of agreement for the FCC's consideration. ARRL noted that the parties to the ARRL-arranged talks declined to forward to the FCC "joint recommendations on which conditional agreement had been reached."

"The issues discussed with the parties are outside the

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scope of this Docket and would require a further Notice of Proposed Rulemaking before final consideration,” ARRL observed. “Some of the same issues also are raised in petitions for rulemaking on which the Commission has sought comment. Given the policy as well as factual disagreements evidenced in the record, we understand that the Commission may decide to consider some of these issues.”

One of those issues involves automatically controlled digital stations (ACDS). Commenters’ concerns focused on interference that could occur with a move away from symbol-rate criteria. ACDS with signals wider than 500 Hz and below 29.7 MHz are confined to specific subbands. ARRL recommended that the FCC consider rule changes that would have all ACDS stations and digital stations with bandwidths greater than 500 Hz share identified subbands.

ARRL said if additional signals are added to the ACDS subbands, as recommended, that it would strongly support expanding the HF ACDS subbands. But, ARRL added, “changing the subband boundaries requires study and careful consideration of trade-offs, because any changes will affect multiple user interests.” ARRL referred subband reformulation issues to its HF Band Planning Committee for study and recommendations.

Some commenters also raised the issue of obscure and encrypted messages. ARRL pointed out in its ex parte remarks that it remains opposed to encryption in the amateur bands, but disagreed “with commenters who argue that the digital modes being used by radio amateurs around the world are per se ‘obscured’ or ‘encrypted.’”

ARRL noted that FCC rules permit the use of “new and innovative digital modes” without prior approval, if specified conditions are met. Digital techniques must use approved codes with publicly documented technical characteristics, and their purpose must be to facilitate communication and not to obscure content.

“Some commenters allege that specific messages violate the Commission’s rules governing encryption, third-party messages, pecuniary interests, objectionable language, or commercial carriage,” ARRL noted, and they have called for open-source decoding software to aid in enforcing the applicable rules. “We observe that recently there have been laudable efforts at self-policing,” ARRL said. “Unresolved complaints are appropriately handled as enforcement matters rather than as rulemaking matters.”

ARRL concluded, “It is vital that the rules governing the Amateur Radio Service facilitate continuation of its experimental traditions and purposes. Using the Amateur spectrum ‘sandbox’ for innovation and development of new ideas and technologies is of significant public benefit.”

<http://www.arrl.org/news/arrl-renews-request-for-fcc-to-replace-symbol-rate-with-bandwidth-limit>
[https://ecfsapi.fcc.gov/file/1091828798020/ARRL%20FCC%](https://ecfsapi.fcc.gov/file/1091828798020/ARRL%20FCC%20Docket%2016-239%2009_17_2019.pdf)

[20Docket%2016-239%2009_17_2019.pdf](https://www.fcc.gov/ecfs/filing/6017477458/document/7520958815)
<https://www.fcc.gov/ecfs/filing/6017477458/document/7520958815>

Program Schedules Four Months of Balloon Launches

(ARnewsline 9/20/19) Educators and radio amateurs in Florida are teaming up for four months of balloon launches that combine HF radio, telemetry, physics, coding and other disciplines in an effort called the Miami High Altitude Circumnavigating Balloon Project. Teachers and university students involved in science, technology, engineering or math programs are invited to get on board with these launches, which will send balloons up to a maximum altitude of 10,000 meters, or 32,800 feet. The launch dates have been set for November and December of this year and January and February in 2020.

The project is receiving technical assistance from German amateur Stefan DK3SB, who will be giving input on payload design and assembly, launch planning, tracking and the balloons themselves. The balloons are, of course, being designed to be trackable following their launch and their light payload will be powered by solar cells. During daylight hours, GPS and Hybrid WSPR mode signals will transmit ID, altitude, location, voltage and temperature every two minutes.

Organizers are hoping to get participants on board in time for the startup of the first launch. Interested amateurs are being asked to send emails to miamihab@gmail.com.

<https://sites.google.com/view/miamihab/home>

Taurus-1 CubeSat with FM-to-Codec-2 Transponder Launched

(ARRL 09/17/2019) The Taurus-1 (Jinniuzuo-1) CubeSat carrying an Amateur Radio FM-to-Codec-2 transponder was launched on September 12 from China’s Taiyuan Satellite Launch Center. The CubeSat was developed by Aerospace System Engineering Research Institute of Shanghai for youth education and Amateur Radio. The transponder is similar to that used on the LilacSat-1 (LO-90) CubeSat and can use the same software, once frequencies are changed, receiving FM with 67 Hz CTCSS on 145.820 MHz and retransmitting it as Codec-2 9,600 bps BPSK digital voice on 436.760 MHz.

The telemetry downlink is 435.840 MHz. In addition to the transponder, the satellite also carries a drag sail. Mark Jessop, VK5QI, reported good telemetry signals on September 13. For more information on the transponder type, see “Digital Voice on Amateur Satellites: Experiences with LilacSat-OSCAR 90,” which appeared in the January/February edition of The AMSAT Journal. — Thanks to AMSAT News Service

<http://www.arrl.org/news/taurus-1-cubesat-with-fm-to-codec-2-transponder-launched>

https://www.amsat.org/wordpress/wp-content/uploads/2019/03/N8HM_LilacSat_LO-90.pdf