

# SQUAKBOX

Issaquah Amateur Radio Club

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Issaquah, Washington

February 2019

## Court Rules Excessive Antenna Application Fees Violated Reasonable Accommodation

Long-pending Amateur Radio antenna litigation that ARRL helped to fund has finally borne fruit. The Supreme Court of the State of New York, Appellate Division: Second Judicial Department has ruled in the case of Myles Landstein, N2EHG, that the Town of LaGrange, New York, not only overstepped its state-granted authority by assessing excessive fees, but violated the limited federal preemption PRB-1 in the process. PRB-1 requires municipalities and states to "reasonably" accommodate Amateur Radio antennas and to apply

the "minimum practicable regulation" in handling Amateur Radio antenna applications. The ruling is slated to be published as a case decision. Landstein, who lives in the Bronx, had wanted to erect a 70-foot antenna support structure for a multioperator station in the Hamlet of Lagrangeville; the Town of LaGrange has a 35-foot height limit.

"This case, which goes back to 2013, was about applying PRB-1 to a situation in which a municipality attempted to thwart the installation and maintenance of ham radio antennas by imposing exces-

sive permit application costs on the ham applicant," said communications attorney Chris Imlay, W3KD, who is familiar with the case. Imlay said the FCC has refused to clarify the cost-prohibition issue as it relates to PRB-1's "minimum practicable

*(Continued on page 4)*

## Latest General-class Question Pool, Effective July 1, Has Been Released

The National Conference of Volunteer Examiner Coordinators (NCVEC) Question Pool Committee has released the 2019 - 2023 FCC Element 3 General Class Question Pool into the public domain. The 2019 - 2023 General Class (Element 3) Question Pool is available in Word, ASCII text, and PDF versions. The new Question Pool is effective for Element 3 exams administered on or after

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## February Program

### Digital Modes

Mihai Manolache W4MHI will tell us all about the wild new digital modes that are out there for us to get into. There is a lot more than FT8 out there.

Future programs are as follows:  
Mar - SOTA, K7JRO  
Apr - Coast to Coast, W7BMH

Contact Joe KF7BMD 425-985-1562 to volunteer.

## At the last meeting . . .

January 2nd, 2019

The meeting was called to order by President Lara Flores at 7:00PM. A number of twenty nine members and three guests were present at the meeting.

The minutes of the December month meeting were moved, seconded and approved with unanimous vote.

Treasure Report - given.

### Old Business

The motion to fund the first year membership for graduates of our club HAM class was moved, seconded and approved with majority and one opposition regarding the statement of the motion. The motion was amended to the final form as follows:

The new graduates passing the exam with CSCE of the HAM class will be granted a one year membership of Issaquah HAM club within the year of graduation. The person needs to come to the club meeting at least once to activate their membership. It was moved, seconded and approved with unanimous vote.

Field Day: Proposal for Pine Lake School was tabled for discussions and voting in the next meeting. Lara Flores volunteered to be the Chairman for this event.

Reimbursement of Joe's expenses for the recent class was moved, seconded and approved with unanimous vote.

### New Business

Meeting is advertised @7:15 in Senior Center communicator and ARRL. Need to be fixed to show the meeting starts @7:00PM. Presi-

*(Continued on page 4)*

## E-Mail Elmer

Got a HAM radio question and can't find an Elmer to talk to? Just send your question by E-Mail to our E-Mail Elmer at:

[Elmer@w7bi.com](mailto:Elmer@w7bi.com) - Ed. - S

### 2018 IARC Officers

#### President

Lara Flores (WA7LNF) - (Issaquah)

#### Vice President

Joe Decuir (KF7BMD) - (425) 985-1562 (Issaquah)

#### Secretary

Mihai Manolache (W4MHI) - (425) 647-7030 (Issaquah)

#### Treasurer

Don Stewart (KI7TTX) - (206) 450-1222 (Issaquah)

#### W7BI Trustee

Rod Johnson (WE7X) - (425) 392-8497 (Issaquah)

## New 2200-meter Beacon On The Air From Australia

The Caboolture Radio Club, VK4QD, in Queensland, Australia, is now operating a beacon on 2200 meters on 137.444 kHz using the call sign VK4RBC. Australia's telecommunications authority ACMA has granted permission for continuous operation of the beacon, using WSPR2 (6H00F1D), plus a CW identifier.



The power is 1 W EIRP into a 500-meter (1,640-foot) wire at a maximum of 40 meters (131 feet). Located in grid square QG62lw, the VK4RBC beacon also receives, which is unusual for a beacon, and it has copied signals from WH2XND (operated by Ron Douglass, NI7J) in Arizona. In the gaps between transmissions, it will report all WSPR decodes to WSPRnet. Equipment is an Icom IC-718 transceiver and Monitor Sensors TVTR2 2200-meter transverter running 50 W TPO. This is the first Australian beacon that has

*(Continued on page 4)*

## New D-STAR ONE Nanosatellites Launched; Es'hail-2 Testing Under Way

A December 27 Soyuz launch deployed the two German Orbital Systems D-STAR ONE satellites D-STAR ONE - Sparrow and D-STAR ONE - iSat. Beacons have been successfully received from both satellites, which carry a D-STAR repeater with an uplink at 437.325 MHz and downlink at 435.525 MHz. The D-STAR ONE - Phoenix 3U CubeSat, launched last February, was lost. A pair of Kanopus V remote-sensing satellites was the primary payload. The flight carried 28 satellites in all.

"During the first low-elevation pass over Berlin, our team established successful contact with both satellites," German Orbital Systems said. "The received telemetry confirms nominal status of all systems."



The December 27, 2018, Soyuz launch carried a total of 28 satellites into space. [Photo courtesy of Roscosmos]

The December Soyuz flight also deployed the UWE-4 1U CubeSat carrying an electric propulsion experiment and a 70-centimeter 9.6 k AX.25 digipeater, with an uplink/downlink frequency of 437.375

MHz.

Elsewhere, AMSAT-DL (Germany) has reported that in-orbit testing of the P4-A ham radio transponders on Es'hail-2 has begun. Es'hail-2 is the world's first geostationary satellite carrying Amateur Radio transponders. During testing, AMSAT-DL cautioned, no one should transmit on the Es'hail-2 uplink.

"Like everyone, we are very excited by the received signals so far, and we do appreciate any monitoring and receiving reports from the Amateur Radio community," AMSAT-DL said, noting that unsolicited transmissions on the Es'hail-2 uplink not only could delay commissioning but adversely affect relations with satellite owner Es'hailSat.

When all in-orbit testing has been successfully completed, the satellite will be moved to its final orbital position at 26° E. The satellite carries an Amateur Radio S-band and X-band payload capable of linking radio amateurs from Brazil to Thailand. It's unlikely that Es'hail-2 will be accessible from North America with typical Amateur Radio satellite gear, however. ARRL Letter, 1/3/2019 - S



## US Islands Awards Program Announces 25th Anniversary Award, Recent Rule Changes

The US Islands (USI) Awards Program celebrates its 25th anniversary this year and is offering a commemorative award for both chasers and activators for contacts made between January 1 and December 31.



To qualify, chasers must confirm 25 islands during 2019, as a club or individual, and activators must

*(Continued on page 6)*

## Question Pool Cont.

July 1, 2019. On January 6, the Question Pool Committee also released a revised diagram Figure G7-1 (PDF) (JPG), as part of the new Element 3 Question Pool. -- Thanks to NCVEC Question Pool Committee – ARRL Letter, 1/10/2019 -S

## MIT Radio Society (W1MX) and the EECS Department Hosting Lectures on "Everything Radio."

The lectures, presented by academics and industry professionals, will be held every Tuesday at 5:30 PM ET in Building 3, Room 270. Sessions will also be live-streamed via YouTube, courtesy of MIT Student Cable (January 8 lecture) and archived. Each self-contained talk will address a different facet of radio, ranging from modulation, propagation, and Amateur Radio, to radar, radio astronomy, space-based applications, and cellular and 5G technology. No prior experience with radio is necessary. All are welcome to attend individual lectures or the entire series. The schedule and speakers list is on the EECS Independent Activities Period (IAP) page, under the Radio Technology, History, and Applications tab (click "Expand All" to view). For more information, contact Daniel Sheen, KC1EPN. – ARRL Letter, 1/10/2019 - S

## Minutes Cont.

dent will take care of this matter.

On the first two Saturdays in May and December a new HAM class is scheduled. The Eagle Room was reserved for these events.

### Presentation

Daniel Stevens, KL7WM presented the Pneumatic Antenna Line Launcher that is a light weight and useful instrument to hook an antenna up to 50ft in the air (e.g. to a tree). A class was proposed and a date should follow if people are interested in its operation.

### Program

After a short break @7:40PM (about 10min), Bob Otis, KI7RMO presented Amateur Radios for New Licensees. The presentation was followed by a live demo in parking area.

Next month dinner will be at Stan's Restaurant @5:30PM

The meeting was adjourned at 9:00PM.

Mihai Manolache, W4MHI, IARC Secretary [January 2nd, 2019 - S](#)

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## Beacon Cont.

been granted permission to operate below 28 MHz. "With WH2XND also reliable, we will now see exactly how good the path from USA to VK really is on 2200 meters," Caboolture Radio Club President Roger Crofts, VK4YB, remarked in a news release. – ARRL Letter, 1/24/2019 - S

## Court Rules Cont.

regulation" and reasonable accommodation provisions of PRB-1.

"The Town incurred more than \$17,000 in legal consulting fees in connection with [Landstein's] applications, and informed the petitioner that he was required to reimburse the Town for these fees before any determination would be made with respect to the applications," the court decision recounted. "The Town subsequently, as 'an accommodation to the petitioner,' reduced the amount...to...\$5,874, but also required the petitioner to maintain a minimum advance continuing escrow balance of at least \$1,000 to cover the Town's future consulting costs..."

"We hold that, because the Town did not limit the consulting fees charged to the petitioner to those necessary to the decision-making function of the town's Planning Board and Zoning Board of Appeals, the town exceeded its state-granted authority by requiring payment of the consulting fees and, moreover, violated a rule promulgated by the [FCC]," the court concluded.

Given the significant delay, Im-lay said both he and Landstein had lost hope that the case would ever be resolved in Landstein's favor -- and in the favor of radio amateurs in New York, generally -- much less be a case that would "create favorable precedent for Amateur Radio."

"ARRL originally was drawn to this case, because New York is the only state that, due to a very old

*(Continued on page 5)*

# RTTY and FT8 Successfully Co-exist in 2019 ARRL RTTY Roundup

## Court Rules Cont.

Based on informal exit polling and log-submission trends, it appears that RTTY and FT8 successfully shared spectrum during the ARRL RTTY Roundup over the January 5 - 6 weekend. The event is seeing a dramatic uptick from last year in the number of logs submitted, with more than 2,400 and counting received by mid-week, as opposed to 1,622 in the 2018 running. ARRL Contest Branch Manager Bart Jahnke, W9JJ, is urging everyone who participated in the 2019 RTTY Roundup to turn in a log -- no matter the number of contacts made. Logs for the 2019 RTTY Roundup are due by Sunday, January 13, at 2359 UTC, and may be uploaded via the ARRL website (or see mailing instructions for paper logs).

"The 30th running of the ARRL RTTY Roundup is now in the books," Jahnke said. "All indications are that the event -- in both RTTY and other digital categories -- gained significant additional attention and increased popularity with the inclusion of FT8 in the digital lineup." Jahnke said digital operating experience gained through the RTTY Roundup should benefit participants in the upcoming ARRL January VHF Contest and in future VHF contests, where WSJT-X protocols such as JTx, MSK144, and FT8 continue to gain popularity as a means to work hard-to-reach grids beyond the usual 400-mile tropo-

scatter range, and for slower activity periods.

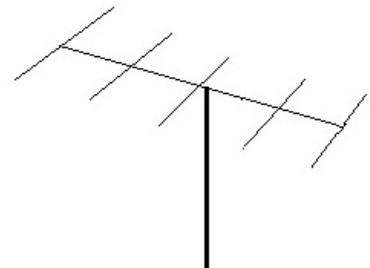
Jahnke reminds those submitting RTTY Roundup logs to make sure they're entering in the correct category. All entries that made contacts in FT8 or PSKxx (with their multi-channel decoder technology) must enter in one of the Unlimited categories, unless they're Multioperator entries. Contact the ARRL Contest Branch with any questions.

The inclusion of FT8 for the first time in the RTTY Roundup had generated considerable pre-contest debate, but when all was said and done, many stations tended to operate one mode or the other, although some took advantage of both (and perhaps of other digital modes), judging from logs posted on the 3830scores website. The RTTY Roundup came close on the heels of the inaugural FT8 Roundup over the first weekend in December, which was deemed a success (it was the first-ever contest for the winner -- only licensed for 2 years -- and for one other Top 10 finisher).

Alex Panoiu, YO9HP, in Romania, said he was initially hesitant about the idea of mixing RTTY and FT8, but he set up for both modes anyway. "Definitely in the first hours, the rates were three times higher in RTTY compared to FT8," he said in his 3830scores comments. "But later, when less 'fresh meat' was available in

case decision, has held that Amateur Radio antennas are not necessarily a 'normal accessory use' to residential real property," Imlay explained. "Because the issue in the case dealt with both that issue and the issue of cost prohibitions in the permitting process relative to the cost of the antenna installation, we decided to fund the case." Landstein lost at trial, and an appeal was filed in about 2015, for which ARRL provided memoranda of law about the cost-prohibition issue. "The antenna at issue and the support structure was to cost no more than \$1,000," Imlay said.

The court concluded that the town "may not use its land-use regulatory authority to construct 'hoop after hoop' for the petitioner to jump through in order to erect his radio antenna tower [and] cannot impose unreasonable expenses so as to create an insurmountable financial barrier to the pursuit of the project. In this context, not only must the consultant fees be reasonable..., but the underlying services must be necessarily related to those municipal regulatory functions which are not preempted by federal law." – ARRL Letter, 1/16/2019 – S



(Continued on page 7)

## 2018 QST Antenna Design Competition Winners Announced

ARRL has announced the winners of the 2018 QST Antenna Design Competition.

"Dozens of entries were received, but only three could win," said QST Editor Steve Ford, WB8IMY.



The first-prize winner of the 2018 QST Antenna Design Competition was a 160/80-meter loop antenna design by Steve Adler, VK5SFA.

Requirements for the 2018 QST Antenna Design Competition included an antenna for one or more bands between 2200 meters and 10 meters that could fit within a 30 x 50 foot area and be no taller than 30 feet above ground at any point.

"In other words, we were seeking designs for LF, MF, or HF antennas for limited-space applications," Ford explained. "We wanted to see innovative antennas that would allow amateurs to get on the air without the need for towering supports and acres of property. Our winners not only met this challenge, they exceeded it." The winners:

**First Prize** (\$600): "A High-Power 160/80-Meter Transmitting Magnetic Loop Antenna," by Steve Adler,

VK5SFA

**Second Prize** (\$250): "LF/MF Reversible EWE Antennas for Small-Lot, Weak-Signal Applications," by Michael Sapp, WA3TTS

**Third Prize** (\$150): "The 3/8-Wavelength Vertical for 20 Meters, a Hidden Gem," by Joe Reisert, W1JR

Details of all three winning designs will appear in a future issue of QST.

Several entries earned Honorable Mention, and those designs will be published in QST later in 2019. Honorable Mention recipients were:

"A Magnetic Loop for 80, 40, and 20 Meters," by John Chappell, W3HX

"Superior Performance from a Unique HF Vertical Loop," by John Portune, W6NBC

"A 630-Meter Mini Antenna that also Works on 160 Meters," by David Day, N1DAY; Ernie Hollingsworth, KC4SIT, and Sid Hendricks, W4IOE

"A Multiband Flagpole with Dual Top Hat Wires," by Donald P. Crosby, W1EJM

"A Compact, Removable 20-Meter Loaded Vertical Dipole," by Stephen Appleyard, G3PND

Ford expressed his appreciation to all participants and to Joel Hallas, W1ZR, who headed up the judging process. "It took weeks to evaluate the entries, with a lot of that time spent running antenna-modeling applications and studying the results," Ford said. - ARRL Letter, 12/6/2018 - S

## US IIs Cont.

qualify or activate 25 islands in any combination, making at least 15 contacts for both new island qualification and island activation. This award can be issued to multiple club members using a single call sign, or to an individual. Send a list of confirmed or activated islands to Award Chairman Jay Chamberlain, NS4J. The list should include name, call sign, address, email, USI number, island name, date worked or activated, and call sign used or worked.

The following permanent rule changes went into effect on January 1: The minimum contact count for island qualifications has been lowered from 25 to 15; the contact requirement of two DXCCs during an island qualification has been dropped, and the bands eligible for island qualifications have been expanded to include 6 meters and satellite contacts. - ARRL Letter, 1/16/2019 - S

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## Chinese Satellites April 5

CAS-7A will carry HF/HF (21/29 MHz) and HF/UHF (21/435 MHz) mode linear transponders, VHF/UHF linear and VHF/UHF FM transponders, a UHF CW telemetry beacon, UHF AX.25 4.8k/9.6k baud GMSK telemetry, and 3-centimeter AX.25 1 Mbps GMSK image data transmis-

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## Roundup Cont.

RTTY and propagation became marginal, FT8 became interesting. I noticed that most of the calls worked in FT8 never appeared in my RTTY log." He logged 369 digital contacts and 639 RTTY contacts.

The WW4LL Multi-Single, High Power team made about one-third of its contacts using digital modes. J42L, operating Multi-Single, Low Power from SV2DCD, avoided RTTY altogether, logging 535 digital contacts.

FT8 co-developer Joe Taylor, K1JT, operating Single Operator Unlimited, Low Power used only FT8, logging 585 contacts. He noted "close to zero" inter-mode interference between RTTY and FT8 signals.

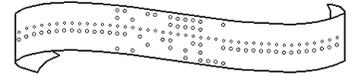
NCJ Digital Contesting Editor Ed Muns, W0YK, said he was very impressed with how the first RTTY Roundup to permit FT8 worked out.

"FT8 has significant advantages for a much larger group of contest participants who are constrained by geography, housing limitations, solar conditions, power, and noise," Muns said. "The amazing explosive growth of FT8 activity since its introduction in mid-2017 also means that there are many more participants for all of us to work in contests."

Muns said he initially didn't believe that RTTY and FT8 could coexist in the same contest. "Of course, like many things we can debate ad infinitum, a little bit of actual experience goes a long way

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# RYRYRYRY...



DE KA7TTY

OK. Here we go again. I hope you are all staying warm on these cold mornings. I have a little teaser for you this month. Take a look at this picture. ....if I had only brought my 'come-a-long'. Rod WE7X promises the rest of the story next month.



We are off to a good start for this year. We should have some good programs to look forward to, and Field Day at a new location.

Here is a thought. We list a call in frequency of 146.56MHz. We really should be listening to say "Hi" and help anyone new trying to find us. I plan to give a "KA7TTY monitoring" call as I head for the dinner and keep my HT on in the restaurant. Feel free to say "Hello". See you there and 73, John

## FCC Tells LED Sign Marketers to Abide by Statutes and Rules

The FCC Enforcement Bureau has called on marketers of light-emitting diode (LED) signs to ensure that these lights comply with FCC rules. Since March of this year, the agency has entered into 21 settlement agreements with companies that marketed noncompliant LED signs in violation of the Communications Act and FCC rules. The settlements yielded approximately \$850,000 in penalties, and commitments to ensure compliance with the law going forward. Adherence to the FCC's equipment authorization and marketing rules is critical because radio frequency emissions from the signs may cause harmful interference to licensed communications, such as wireless services, the FCC said.

"In light of these recent settle-

ments, we remind LED sign marketers of their obligations under the law," said Enforcement Bureau Chief Rosemary Harold. "The FCC takes seriously its responsibility in ensuring that energy-emitting devices like LED lights do not interfere with authorized transmissions."

LED lights are often used in digital billboards and other commercial and industrial applications, including billboards and large video displays in sports arenas. Given the electrical design of these lights, they may emit RF energy. Prior to being marketed in the US, LED sign models must be tested and comply with FCC technical standards and must include the proper labeling, identification, and user information disclosures.

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## SQUAKBOX

This newsletter is published monthly for the members of the Issaquah ARC W7BI. Items for publication must be received by the 15th day of the month preceding publication. Send items to:

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Material may also be sent via E-Mail at editor@w7bi.com.

The IARC is affiliated with the American Radio Relay League (ARRL). Visit our WEB page at: <http://www.w7bi.com>

Membership is open to anyone regardless of age, sex, race, national origin, religion, or amateur radio license status. Dues are \$15 per year for a family membership, free for those under 19 years of age.

A two-month courtesy mailing of this newsletter will be made to meeting visitors and others upon request.

Original material may be quoted without prior permission provided ISSAQUAH ARC SQUAKBOX is credited.

## – Coming Events –

- **February 6** - Monthly Issaquah ARC meeting at the Issaquah Valley Senior Citizens Center, 75 NE Creek Way, Issaquah. Doors open at 6:45 PM, the meeting begins promptly at 7:00 PM and the program begins at 8:00 PM. Refreshments are provided.
- **February 16** - Salem Hamfair & Computer/Electronics Swapmeet. Rickreall, OR at the Polk County Fairgrounds. <http://www.w7sra.com>
- **February 25** - Issaquah Communications and Support Team meeting, Issaquah Public Works, Issaquah, talk-in 146.56 MHz at 6:45 PM, Meeting at 7:00 PM.
- **March 9** - Mike & Key 38th Electronics Show & Fleamarket. Puyallup fairgrounds exhibition hall, Puyallup, WA. <http://www.mikeandkey.org/index.php>
- **March 23** - MicroHams Digital Conference. Redmond, WA. <https://www.microhams.com/mhdc/>
- **April 13** - Yakima Hamfest. Yakima, Washington <http://yakimaamateurclub.com/yakima-hamfest/>
- **April 13 -14** - Communications Academy. South Seattle Community College, Seattle, WA. <http://commacademy.org/>

## Dues Are Due

It is that time of year when we need to collect dues so we can keep the club going. So if you haven't done so already, you need to see our new Treasurer and pay your dues. [ *Ed.* ]

## Satellites *Cont.*

sion for an onboard camera. CAS-7B is described as a 500-millimeter sphere spacecraft weighing 3 kilograms. It will carry a VHF/UHF transponder and a UHF CW telemetry beacon. -- Thanks to AMSAT News Service – ARRL Letter, 1/24/2019 - S

## Roundup *Cont.*

to inform our [preconceived notions]," he added. "I'm very impressed with how it all worked out." – ARRL Letter, 1/10/2019 - S

## LED Signs *Cont.*

The FCC Office of Engineering and Technology (OET) oversees the equipment authorization process for RF devices, including LED signs.

The Enforcement Bureau investigated hundreds of indoor and outdoor LED sign models and discovered repeated FCC rule violations concerning the failure to market the models with the required equipment authorizations, labeling, and user information disclosures. – ARRL Letter, 12/13/2018 – S