

**American Radio Relay League
Proposed 2018 – 2019
Departmental Plans**

CONFIDENTIAL

ARRL, INC.
The National Association for Amateur Radio

2018-2019 Plan
Department Plans

Table of Contents

<u>Department</u>	<u>Page</u>
Membership	2
Sales and Marketing	6
Publications	16
Business Services	20
Development	22
Radiosport & Field Services	25
Volunteer Exam Coordinator	28
Information Technology	33
Washington	35
Communications	43
Lifelong Learning	44
Lab	45

Membership

Diane Petrilli, Membership Manager

By yearend 2017 ARRL should be on target with forecast and have 158,335 members. This represents a loss rate of 3.5% for the year.

As of August 31, 2017 we were 275 members *ahead* of YTD forecast and \$277,000+ ahead of 2016 YTD actual revenue. For perspective, we ended 2016 with 252 members *ahead* of forecast and \$378,000+ ahead of YTD 2015 actual revenue. We are losing members in the exact fashion that was forecasted and we continue to realize additional income from the dues increase of 2016.

For two years now we have tracked closely to our original forecast made in 2015 about how the dues increase would affect membership. We are assuming our prediction of a 2.0% net loss of members from January to December in 2018 is reasonable and are not changing it at this time.

Summary

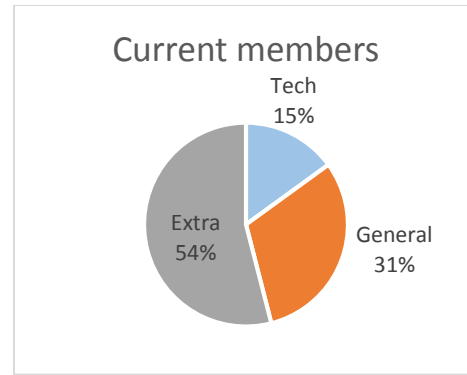
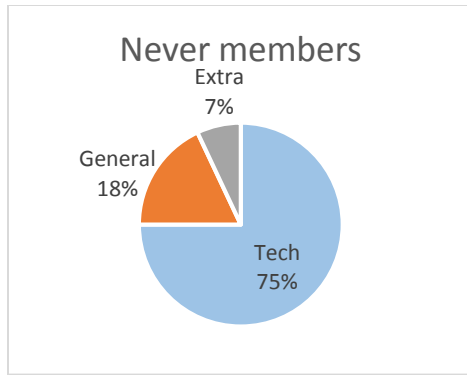
2018 Membership Forecast	
Year-end 2017 (projected)	158,335
Net Loss (2.0%)	<u>(3,170)</u>
Year-end 2018	<u>155,165</u>

Year	% growth
2012	1.56%
2013	1.21%
2014	2.13%
2015	2.94%
2016	-3.79% (dues increase)
2017 (estimate)	-3.5%
2018 (estimate)	-2.0%

Strategies

Focus on New Hams

According to the 2015 Readex Market Study, 75% of all key radio amateurs (those most likely to engage with ARRL) who have never been ARRL members are Technicians. Addressing the needs of this group is the only way to grow ARRL's membership in a meaningful way. Conversely, Technicians comprise only 15% of ARRL's current membership so something very significant has to change in our traditional model. Until we offer more meaningful resources to Technicians -- a clear path that outlines steps they can take to get active and on the air, and benefits/resources that align more closely with their current (beginner) status in Amateur Radio -- only incremental growth will be possible. The efforts to hire a Lifelong Learning Manager and the testing of a new benefit/publication are steps in the right direction.



The goals for 2018 will focus on improving the new ham mailings and trying to get new hams to give us their e-mail addresses:

√ Implementing the new design of the first mailing into the second and third mailings by *December 2017*

√ Continuing to test and refine mailings to this group:

1. Test different material in 1st mailing
 - Quickstart Guide vs. material more relevant to offer/benefits
 - January-May 2018*
2. Test #10 vs. 9X12 envelope size for first mailing
 - We could save \$51,000 by switching to a #10 envelope. These savings would be realized in 2019.
 - June-October 2018*
3. Continue to refine by testing an additional new design
 - November 2018 – March 2019*
4. New idea: Test 4th postcard mailing to new hams
 - QR code link to relevant/valuable material in exchange for e-mail address.
 - Content will be required from publications department to trade for e-mail addresses and for continued communications.
 - August 2018 – January 2019*

Benefit for New Hams/Retention Activities

Multiple surveys show that:

- Active hams are more likely to join ARRL or renew their membership.
- Newly licensed hams need help/training to get on the air and become active in Amateur Radio.
- Technicians and newly licensed hams are less satisfied by QST less than Generals, Extras, and those who have had their license longer.

The following is a quote from Rich Agule, KM4WWM. He was surveyed as a current member

Technician but has decided not to renew his membership. His sentiments are shared by many newly licensed Technicians.

*“My subscription is up this month and I've reluctantly decided not to renew. Each month, for the last year, I've waited for QST magazine to arrive hoping that there would be at least one article for me, a new technician. And each month I've been disappointed. Most of the articles I try to read each month are Greek to me. It has been a very frustrating year that I don't wish to repeat. **I think you've forgotten that the future of amateur radio is with new hams, new technicians, like me.** I just started: I have no interest in contesting. I'm a new ham; I'm nowhere near ready to purchase the expensive equipment that you review each month. I'm a technician studying (to learn) for the General exam; I never see articles that might help me understand the General material. As I see it, QST is a magazine geared to established General and Extra hams who have money to spend on expensive equipment. QST never seems to have anything for me.”*

We are currently working with Readex Research to test a publication geared towards new hams. We want to determine if the publication may be an appropriate tool to help hams get active (which will hopefully mean that they join and stay ARRL members).

The survey will help us determine appropriate content, best channel for delivery, and whether or not a publication of the sort being tested would make new hams more likely to join or renew their membership. The survey will also help us better understand obstacles new hams face, more about their learning habits, and whether there are subtle differences between “being active” and “being on the air.”

A large portion of the first part of 2018 will be spent combing through the results and developing a strategy moving forward.

E-mail

In cooperation with other key staff, we will investigate a new broadcast e-mail tool that will allow us to improve the effectiveness of our e-mails by having access to analytics (opens, clicks, actions taken) and additional features such as personalization and mobile-optimized templates. We will take this one step further by reaching out to companies that may also help with marketing automation. Consideration will need to be given by IT as to how to migrate *all* staff to the new platform as well as how we integrate any systems with our existing AIS.

Monthly Mailings

In 2018, we will continue to test various messages, materials and methods before conducting large-scale campaigns--honing appeals, offers, formats, personalization and segmented (targeted) messaging. Major campaigns targeting lapsed and “never” members include:

- 8 mailings of 40,000 each (January, February, March, April, May, October, November & December).
- 1 mailing of 20,000 in September

\$2,500 has been added to the 2018 budget for a graphic designer to give these monthly mailings a fresh new look which will hopefully lift the response rate incrementally.

Membership and Subscription Module

Key staff will continue to work together to complete the specifications needed for the new AIS membership module.

ARRL Tour and Visitors Program

We continue to enjoy the support of 35+ volunteers as part of the HQ volunteer “Tour Guides” program. Sustaining this program and volunteers requires:

- recruiting new volunteers as needed
- ongoing training, including training of new tour guides as necessary
- recognition events for the volunteers

SALES AND MARKETING

Bob Inderbitzen, Sales and Marketing Manager

1. Sales and Marketing Department Mission and Goals

Our mission is to cultivate interest and engagement in Amateur Radio by promoting ARRL publications, products, and membership benefits. We serve members and customers through effective marketing and communication strategies, and the efficient centralized administration of membership application processing, order processing, and circulation. Excellence in serving members and customers is our #1 priority. The department includes the following operational divisions:

- publication and product marketing, and direct sales
- fulfillment and warehouse
- affinity benefit programs
- event and exhibit management

2. Staffing Changes

There are no proposed staffing changes for 2018.

When the new membership system is realized, we anticipate a significant migration of renewals to the new online membership application and new auto-renewal feature. The reduction in data-entry processing may support a staff reduction in the future.

Summary of Publication & Product Sales Administration:

Month	Total Orders	# of Orders Requiring Data-Entry		# of Orders Processed via Web	
2017					
Jun	3,817	601	16%	3,216	84%
May	4,202	642	15%	3,560	85%
Apr	4,922	670	14%	4,252	86%
Mar	3,771	570	15%	3,201	85%
Feb	3,515	447	13%	3,068	87%
Jan	3,408	532	16%	2,876	84%

Orders requiring data-entry: 15%

*Summary of Membership and Subscription Administration:
(Term and Life Membership, QST, QEX, and NCJ)*

Month	Total Orders	# of Transactions Requiring Data-Entry		# of Transactions Processed via Web	
2017					
Jun	8,207	4,271	52%	3,936	48%
May	10,306	5,865	57%	4,441	43%
Apr	8,291	3,744	45%	4,547	55%
Mar	11,057	5,738	52%	5,319	48%
Feb	9,953	4,886	49%	5,067	51%
Jan	10,458	5,100	49%	5,358	51%

Transactions requiring data-entry: 51%

3. Publication and Product Sales

The 2018 publication and product sales forecast is \$3,133,346.

Publication and Product Sales Forecast and History

2018 forecast	\$3,133,346
2017 forecast	\$3,293,775
2016 actual	\$3,274,501

Publication and Product Sales Forecast by Category			
	2018 Plan	2017 Plan	2016 Actual
CLASS 01 HANDBOOKS	\$493,448	\$650,235 ^a	\$340,280
CLASS 02 REPEATER DIRECTORY PRODUCTS	\$144,364 ^b	\$136,585 ^b	\$140,061 ^b
CLASS 03 BEGINNER TRAINING PUBS	\$472,629 ^c	\$578,356 ^c	\$595,049 ^c
CLASS 04 UPGRADE LICENSING PUBS	\$400,965	\$431,387	\$523,665
CLASS 05 OTHER ARRL BOOKS	\$758,000	\$664,294	\$815,246
CLASS 07 NON-ARRL BOOKS	\$166,000	\$175,000	\$168,818
CLASS 08 RSGB BOOKS	\$47,000	\$50,000	\$46,202
CLASS 12 ROYALTY BOOKS	\$325,941	\$256,918	\$270,630
CLASS 32 MEMBERSHIP SUPPLIES	\$235,000	\$245,000	\$275,807
e-Book Royalties	\$90,000	\$106,000	\$98,743
PUBLICATION & PRODUCT TOTALS:	\$3,133,346	\$3,293,775	\$3,274,501

- a. The 2018 Handbook, introduced in October 2017, was a major revision.
- b. Includes commissions earned from the licensing agreement with RFinder:
 - o Forecast for 2018 - \$26,400
 - o Forecast for 2017 - \$29,000
 - o Actual in 2016 - \$23,532
- c. In 2016, we enjoyed exceptionally large sales from Amazon for the *Ham Radio License Manual*. However, their ordering pattern changed in 2017. Jan-Sep 2017 sales are down over 20% as compared to Jan-Sep 2016.

Strategies

New Products

Our most successful sales strategy includes the regular introduction of new products, particularly new publications and new editions. Sales promotions and advertising often focus on new publications, while benefiting our long tail of previously published titles and third-party offerings. This strategy is illustrated in the following table, which summarizes sales during the last 12 months. While we inventory over 575 SKUs, 63% of our sales commerce is attributed to ten publication titles and merchandise lines. This strategy produces the occasional blockbuster, like our new *Grounding and Bonding* title which was introduced in April 2017, but it also helps us acquire and manage member/customer interest by using our most popular products.

**Top 10 Grossing Publication Titles and Merchandise Lines
October 2016 to September 2017 (12 months)**

Product Description	QTY	Gross Sales	Net Sales
ARRL Ham Radio License Manual	21,787	\$474,518	\$422,111
ARRL Handbook (New edition in Oct 2016)	8,922	\$358,408	\$274,648
ARRL General Class License Manual	8,984	\$204,034	\$176,242
ARRL Extra Class License Manual (New ed. in May 2016)	7,596	\$179,888	\$138,599
ARRL Antenna Book	4,399	\$171,236	\$133,508
Grounding and Bonding (New in April 2017)	6,244	\$115,476	\$109,083
ARRL Operating Manual (New edition in Oct 2016)	5,601	\$109,607	\$84,855
ARRL Field Day merchandise (New items annually)	10,870	\$100,402	\$74,481
ARRL Repeater Directory (New edition in Apr 2017)	8,740	\$98,017	\$55,560
Work the World with JT65 and JT9 (New in 2015)	3,490	\$43,117	\$38,809
TOTAL – Top 10		\$1,854,702	\$1,507,896
TOTAL – All Products		\$2,930,814	\$2,270,816
Top 10 as a percentage of total sales		63%	66%

The dominance of some high performing titles also contributes to member satisfaction and loyalty, illustrated in over 55% of all sales are direct vs. dealer.

Kindle e-Books

In 2015 and 2016, we accelerated efforts to increase the number of our titles available as digital editions in the Kindle format — Amazon’s proprietary e-book platform. There are 27 ARRL titles in Amazon’s Kindle marketplace. While each new book published by ARRL is considered for conversion to Kindle, a limiting factor is the economics of Amazon’s publishing and pricing strategy.

We have forecasted \$90,000 in royalties for Kindle e-Books in 2018.

2018 forecast	\$90,000
2017 forecast	\$106,000
2016 actual	\$98,743
2015 actual	\$63,855

Multi-Channel Product Marketing

Marketing ARRL publications and products involves a multi-channel ‘mix’ of strategies and tactics:

- Online e-commerce (ARRL e-store)
- E-mail solicitations and “new product” bulletins
- Annual Member birthday postcard with online publications discount
- Advertising: *QST*, *NCJ*, *QEX*, digital *QST*, web, e-newsletters, third-party catalogs, etc.
- Copywriting: book covers and product packaging, e-store.
- Direct mail
- Catalogs and flyers (ride-along with other ARRL mailings and fulfillment)
- Social media (Facebook, Twitter, etc.)

Major campaigns for promoting publications and products include:

- 9 mailings, promoting new publications and products. These mailings included targeted lists of previous purchasers and best prospects (January, February, March, August, September & November).
- Member birthday postcards (monthly).
- Customer loyalty postcards (March, July & November).
- Upgrade license mailings, promoting General and Extra class license manuals (ongoing).

Profit and Cost Management

Each new publication goes through a profitability model to evaluate the potential profit margin. More recently, we have increased our attention on manufacturing costs and other variable costs which impact contribution margins. Printing quotes and freight/shipping options are scrutinized, and competitive bids are sought for all merchandise.

Business Development

Business development is ongoing, with a focus on generating new revenue using our existing publishing, marketing and fulfillment infrastructure. The effort is interdepartmental, involving collaboration across the Marketing, Business Services and Publications Departments. Areas of exploration include:

- New periodicals
- Digital publications
- Expansion of our offerings of third-party publications, kits and other products
- Collaborative publishing ventures with partners who serve similar interest groups (electronics hobbyists, makers and hackers, public service volunteers, etc.)
- Increasing publication sales to wholesalers and resellers

Assumptions and Risks

- 1) When a new license manual is introduced as a result of a new question pool, it generates a surge of interest from individuals purchasing study materials for the new exam, and from dealers and wholesalers seeking to be re-stocked with new editions. In 2018, a new Technician class question pool will prompt new editions of *The ARRL Ham Radio License Manual* and *ARRL’s Tech Q & A* in May.
- 2) The 2019 edition *Handbook* will undergo only minor revisions. The 2018 edition was a major revision.

- 3) Book delays add some uncertainty to sales forecasting. The forecast also assumes new titles will help drive interest for older titles (our long tail).
- 4) We regularly follow trends that split our customer base between direct sales and wholesale purchases. Some customers prefer to purchase books directly from ARRL, while others turn to Amazon or other major book outlets who sell our manuals much cheaper (sometimes as a loss leader). The sales mix is further complicated by the fact that some titles are sold more successfully via direct promotion and fulfillment, while others are sold primarily through our wholesale buyers. We will aggressively continue to leverage all sales channels: direct, dealer and wholesale.
- 5) Some industry trends suggest print publishing is enjoying a resurgence of interest, and even a decline in e-book sales. However, should reading preferences shift in an accelerated way toward digital publishing, and away from print, the cost-profit model may change significantly (low risk).
- 6) It has become increasingly difficult to forecast sales with fewer dealers and their non-predictive ordering behavior. For instance, Amazon's ordering pattern for license manuals changed without explanation in 2017, and resulting in fewer sales. Since we have a diverse product line, these trends can also produce large swings in our favor.

Other Marketing Activities

Marketing attention will be given to these existing publication and product areas.

- Custom specialty products, apparel, and awards
- ARRL Field Day product line
- Apparel and supplies for public service volunteers and ARRL Volunteer Examiners
- ARRL Periodicals: *NCJ* and *QEX*
- Other commission, royalty and licensing agreements

4. Fulfillment and Warehouse

The Fulfillment and Warehouse departments support membership application processing, renewal and retention strategies (executed in close coordination with the Membership Manager), circulation (*QST*, *NCJ* and *QEX*), publication sales, direct mail campaigns, sales of logo-bearing clothing and other merchandise. In 2016, these staff administered and shipped over 47,000 paid orders. These departments also manage fulfillment of exhibit and event collateral (forms, brochures and handouts, display materials, and other media), in-house inventory fulfillment and distribution (including membership signing premiums). The fulfillment team also provides “help desk” support for the digital edition of *QST* and ARRL website user accounts. The Circulation Manager administers monthly notification of the digital edition of *QST*.

Our staff supporting these areas is adeptly cross-trained in all responsibilities to support efficient work flow among these diverse activities. For instance, each Member Services Representative is cross trained on many core responsibilities supporting membership, subscriptions, product fulfillment, and frontline support.

Strategies

Membership Renewal and Retention

Working in close coordination with the Membership Manager, we support and administer numerous activities that fulfill our membership renewal and retention activities:

- Renewal mailings and e-mail reminders
- Annotating our membership recordkeeping with e-mail addresses, birth dates, e-subscription preferences
- Fulfilling supplemental copies of *QST* for new members

For many years, we have fulfilled a stand-alone membership card after members join and renew. The card and mailing is, however, very costly. Beginning in 2018, we will eliminate the membership card as a separate mailing, in favor of moving the card into the first renewal notice. This change is supported by the following points:

- Members already have access to their membership expiration date (and other data) via their online membership profile.
- Members renewing online receive an immediate, e-mail acknowledgment. We will investigate ways to fulfill e-mail acknowledgements for members who renew by mail (possibly as a requirement of new membership information system).

Eliminating the membership card as a separate mailing reduces expenses by \$38,000.

QST Circulation

QST is fulfilled to the majority of domestic members via a “Co-mail” strategy. Co-mailing leverages postal discounts and decreases the touch points required by the United States Postal Service. Because handling is reduced, members received *QST* in better condition and with improved predictability. *QST* is included in the largest co-mail platform available, ensuring the greatest postage savings possible and improved delivery.

Technology

In 2018, key staff will continue to participate in writing specifications for the new AIS membership module.

We will pursue some additional capabilities from a new membership system to improve predictive analytics for targeting membership prospects, and to improve retention. This effort will be coupled with a new online membership application and auto-renewal feature, permitting members to opt-in to automatically renew their membership and manage a payment preference (for instance, auto-debiting a credit card or debit account). An auto-renewal feature will ultimately reduce the costs associated with mailing renewal notices and manual data-entry.

Training

The member services team receives ongoing training and regular evaluation. Processing efficiencies have contributed to greater emphasis on our personal contact with members and customers (for example, using metrics from the telephone reporting application for planning). The

team is trained to help educate members about benefits, and to leverage cross-selling and up-selling opportunities.

Shipping

Our 2018 plan reflects a reduction in shipping expenses for fulfilling orders (Forwarding Costs). The savings is associated with a reduction in USPS postage expenses, following steps implemented by a member of our warehouse team in February 2017 to reclassify packages weighing under one pound from Priority Mail to First Class. Without this change, this expense would have been forecasted \$30,000 higher in 2018. Additionally, in 2017, we negotiated a reduction in FedEx International Express shipping rates for packages under 10 pounds, as part of an ongoing interest to expand publication sales to non-US customers.

We will continue to closely scrutinize actual vs. collected shipping charges and explore the pros and cons of different ways to collect shipping & handling charges from members/customers. For domestic orders, we presently calculate shipping & handling fees based on the sales value of the order (rather than weight and destination), incenting members for larger orders.

Cost Management

We are committed to serving members and customers through cost effective, member-centric fulfillment strategies. In 2018, cost savings will remain central in our consideration of carrier options, costs for materials and supplies, in contract negotiations, and all of our business dealings. Printing and mailing services are regularly sourced. Competitive pricing is solicited for all projects. Periodic reviews are made to ensure compliance with postal regulations.

Field Recruitment

We have a collection of high quality collateral and display items to support volunteers and staff involved with field-based membership recruitment and promoting Amateur Radio. We will continue to develop and/or redesign new materials as needed and requested. These items are regularly requested by Directors, Vice Directors, Section Managers, radio club officials, members and staff. Materials have also been developed for, and are being used by, ARRL VE teams and the Teachers Institutes.

Assumptions and Risks

Our 2018 planning includes an anticipated 2% USPS postage increase, effective January 1, 2018. Other US Postal Service rate hikes are unpredictable.

5. Affinity Benefit Programs

We will support the existing suite of affinity benefit programs:

- *ARRL Visa Signature Card (US Bank)*: We have forecast commissions earned of \$50,000 for 2018.
- *Home & Auto Insurance Program*: In February 2015, we introduced Liberty Mutual Insurance as our new benefit provider for home and auto insurance. There has been little

traction for the benefit, and the program results have been disappointing. We have forecast commissions of \$2,500 for 2018.

- *ARRL Equipment and Club Insurance Program:* We continue to have a successful revenue stream for this program offered through Risk Strategies. The forecast for 2018 is \$22,200.
- *AmazonSmile:* Since 2014, members shopping with Amazon are invited to shop at smile.amazon.com and choose ARRL as their charity of choice. The foundation donates 0.5% of the purchase price of eligible AmazonSmile items to ARRL—from purchases made by members and friends. The program has made it possible for members to extend additional support to ARRL through ordinary purchases with Amazon. The program is promoted periodically throughout our news and marketing outlets. We have forecast commissions of \$9,000 for 2018.

Efforts to investigate and implement new benefits for our members are ongoing.

6. Exhibits

In 2018, we will exhibit at the annual Dayton Hamvention®. For decades, ARRL has supported an organizational presence at Hamvention - ham radio's largest event in the US. In 2017 Hamvention successfully moved to a new smaller venue. moved to a new venue in 2017; a fairgrounds. Generally, the move was successful. Since 2005, the centerpiece of our participation at Hamvention has been ARRL EXPO, a showcase of ARRL exhibits, activities and program representatives. Due to the smaller size of the new venue, the organizers committed a smaller exhibit area for ARRL in 2017, which reduced our overall presence and the number of staff and volunteers we need to support our operation at the convention. 2018 Dayton Hamvention is May 18-20.

In addition to Hamvention, we will organize smaller exhibits (usually a double-wide booth) to promote ARRL membership at the following events. These are among the largest Amateur Radio conventions held annually, with attendance figures consistently over 1,000 or more, and include the participation of a large number of our advertisers and business partners. One staff person will be assigned to the booth as a membership representative.

- Orlando Hamcation—Orlando, Florida, February 9-11, 2018
- SEA-PAC—Seaside, Oregon, June 1-3, 2018
- International Exhibition of Radio Amateurs—Germany, June 1-3, 2018
 - Includes exhibit space to promote/serve DXCC and ARRL Award Programs
- Huntsville Hamfest—Huntsville, Alabama, Aug 18-19, 2018
- Boxboro—Boxborough, Massachusetts, Sep 2018
- Pacificon—Santa Clara, California, Oct 2018

In recent years, we have supported or organized exhibits outside of traditionally ham radio events in an effort to develop interest in ham radio among similar and like-minded interest groups. For example, we have supported exhibits at Maker Faires, IEEE events, and the National Association of Broadcasters (NAB) show. In 2018, we will organize an exhibit at the Experimental Aircraft

Association (EAA) Airventure. The event is often cited by our members and radio manufacturers as a “good fit” for leveraging interest in ham radio.

- EAA Airventure – Oshkosh, Wisconsin, July 23-29, 2018

7. Capital Investment Requests

None.

PUBLICATIONS

Steve Ford, Publications Manager

ARRL Media: Looking Ahead to 2018

In 2018, we must begin to address the tectonic changes taking place across the Amateur Radio media landscape. Due to the influence of the internet, *QST* magazine is no longer the primary source of relevant content, and the days when it used to serve a one-size-fits-all role are behind us. Today, hams are immersed in an ocean of information from a wide variety of sources. Instead of relying on a monthly print publication for occasional articles of interest, amateurs are finding what they desire in abundance at websites, online forums, and more.

At the same time, we are witnessing a substantial demographic divergence among amateurs, members and non-members alike.

The core *QST* audience is comprised mostly of older, often retired, readers who've spent many years in the hobby. They tend to embrace the fraternal aspects of Amateur Radio and while they may be technically experienced, the technology with which they are comfortable is rapidly becoming obsolete.

In contrast, "younger" amateurs – age 30 to 60 – are more interested in newer technology, but they have a much broader range of technical interests. We are hearing an increasing amount of criticism from this younger segment that *QST* content is "boring" and that technical articles are "over their heads" because the focus is narrow and sometimes almost arcane. So, rather than spending \$49 to become ARRL members and recipients of *QST*, they seek their content elsewhere.

This shifting environment poses a serious challenge for ARRL media, one that must be addressed sooner rather than later.

I. The Readex Research Survey

In the last quarter of 2017, we contracted with Readex Research Corporation to do an extensive survey of amateurs who have never joined ARRL, most of whom are in this younger cohort. The results of the research will be available in the first quarter of 2018.

The purpose of the research is to determine what, if anything, the ARRL can do to attract these individuals to membership. The survey presents the participants with a prototype publication that is specifically tailored to what we believe they might prefer. The survey also probes their media consumption habits, as well as the other ways in which they enjoy Amateur Radio.

It is our plan to use the survey results to modify ARRL media in significant ways, with changes to be implemented in the second half of 2018 and into 2019. The budget impact will, of course, depend on the directions indicated.

If the Survey Indicates a Strong Preference for a New Publication...

If the survey results strongly indicate a preference for a new print or digital publication, the following annual cost estimates apply (personnel benefits included):

Layout: One person at \$44,975

Copyeditor: One person at \$51,400

Managing Editor: One person at \$77,100

Printing: \$360,000 (assuming a 48-page format and a circulation of 30,000)

Mailing: 298,800

Annual Total: \$832,275

For a digital publication, subtract printing and mailing costs.

If the Survey Does *Not* Indicate a Preference for a New Publication...

If the survey results fail to indicate that a new publication would be a worthwhile investment for the organization, we recommend that we instead focus on our established competencies and strengthen our current offerings to the core membership.

- Sharply reduce the *QST* editorial focus on complicated technical features and instead present a greater emphasis on nostalgia, on-air activities, and human interest. Simpler technology features, such as antenna projects, would still be included.
- Shift the stronger technical material to *QEX* and implement a more attractive design for the magazine. We may also wish to consider printing *QEX* in color. These changes should be coupled with a strong promotional campaign. The suggested modifications to *QEX* would boost the currently estimated annual cost from \$30,000 to \$40,000.
- Make more efficient use of our social media channels to push content and cross promote.
- In addition, we recommend that ARRL's media outreach shift more toward providing online mentoring for amateurs, new and otherwise.

II. E-Newsletters

If the Readex survey validates our assumptions about digital media, one means of serving a fragmenting audience is through electronic newsletters, or *e-newsletters*. ARRL already publishes three such e-newsletters, all free of charge:

Contest Update (biweekly)

ARES E-Letter (biweekly)

ARRL Letter (weekly)

Our proposal is to create several more e-newsletters that would be focused on other interests. These newsletters would be either advertiser supported, or offered at an additional cost to readers. For example . . .

Antenna Digest
Digital Radio Monthly
QRP Monthly

Each e-newsletter would require, at the very least, a freelance editor at an estimated annual cost of \$12,000 per newsletter.

III. Reducing the *QST* Page Count

With its present monthly count of 160 pages (not including covers), the production of *QST* magazine represents a substantial drain on staff resources. Because of declines in advertising, we must fill more editorial pages each year. As a result, we are forced to rely on an increasingly sporadic flow of article submissions from members.

In addition, we must often accept material that does not meet the standards we desire. This results in additional staff work to bring these articles up to acceptable levels. We would prefer to generate more *QST* content internally, shaping articles to more closely match the needs of readers, but in the present environment, that is not possible.

We project a continued decline in authorship by members, and the Advertising Department estimates either flat or declining sales. This creates a situation that is not sustainable for the magazine.

We propose reducing the monthly *QST* editorial page count by 16 pages. This reduction will give staff the extra breathing room necessary to generate more content and plan issues to better serve the membership.

Because of the thin paper stock used in *QST*, members are unlikely to notice the reduction. Moreover, the annual cost savings provided by the page reduction in 2018 are estimated to amount to \$50,000. It may also be possible to reduce the overall trim size by a small amount. This would result in an additional annual savings of \$24,000. There is also a savings of \$14,000 annually in mailing costs, for a combined total annual savings of \$88,000. However, a slightly reduced trim size *would* be noticed by those who stack issues vertically on shelves.

IV. Book Production in 2018

We have scheduled the following books for production in 2018. New titles are highlighted in **bold**.

<u>Title</u>	<u>To Press</u>
<i>Hands On Radio Experiments, Volume 3</i>	01/15/2018
<i>Active Receive Antennas</i>	02/01/2018
<i>Portable Operating</i>	03/01/2018
<i>Ham Radio License Manual</i>	04/01/2018
<i>Technician Q&A</i>	04/01/2018
<i>2019 Handbook</i>	08/15/2018
<i>2019 Calendar</i>	08/01/2018
<i>6 Meter Antenna Book</i>	09/01/2018

BUSINESS SERVICES

Debra Jahnke, Business Services Manager

Advertising Sales

The 2018 forecast for gross advertising revenue is \$2,000,000. The 2017 forecast was \$2,061,000.

Our current plan for 2017 is to meet the forecast as the advertising clients seem to have stabilized to some extent, but we are still seeing shrinkage in ad sizes and commitment terms for 2018.

We also continue to witness the phenomenon of smaller companies turning over their products to larger companies to sell and handle the advertising by including their various acquired products in already existing ads. Three major clients expanding their product lines in this manner are DX Engineering, Ham Radio Outlet and Vibroplex. Although we have counseled our smaller clients that this single pronged approach does not adequately promote their products, for the moment, cost savings have won out.

The primary reason that we should meet the 2017 revenue forecast is anomaly ads. We were fortunate to procure them in 2017 but it is unlikely to happen again with these clients during the following year. For example, every several years, Hilberling de tries a relaunch of the PT-8000. We have four, one third page insertions. In addition, Yaesu, Rig Expert and ICOM have come in for advertisements that will accompany their product reviews on bigger ticket items.

Our 2017 strategy in selling more electronic advertising to our client base has not been successful due to the declining click-through rates. As money grows tighter, clients pay considerably more attention to the views and, more importantly, the click-throughs. There are various things that we can try to increase the click-through rates such as redesigns of existing vehicles to increase advertising visibility and attempt to provide a more active group of readers, more prone to make purchases, but it is our move.

There are a number of strategies that are already in the works or are under consideration but will take time and resources:

- Fix the look, feel and advertising availability of our enewsletters.
- Offer sponsored content in *QST*.
- Offer more alternative methods of advertising such as podcasts and other types of sponsorships. This would possibly necessitate the creation of a new contest or award. At present, there is little interest in podcast or *QST* column sponsorships.
- Work to provide a more active buying audience for our clients.

Summary

There is no magic formula that will significantly increase our advertising revenue in the near future. The industry is contracting and consolidating and this action does not foster increased advertising. We will have to adapt.

The Business Services Department that handles advertising will continue to generate in excess of \$2 million per year of gross revenue and continue to maintain the highest operating margins in the organization.

Wholesale Book Sales

At this writing publication sales overall remains slightly better than the 2017 forecast. However, 2016 wholesale book sales comprised 44% of all sales and comprise 40% during the same timeframe in 2017.

Amazon.com remains our largest client in terms of sales. As of this writing, they comprise over 60% of all wholesale transactions. From January 2017 through August 31, 2017 their sales totaled \$493,417 (\$40,552 lower than the same timeframe in 2016). Although our next two largest dealers, Ham Radio Outlet and DX Engineering remain solid, a number of smaller book buyers have decreased their purchases due to competition from Amazon and the numerous specials that we offer with our direct sales. There is no way to prevent this transfer and our only recourse is to continue to encourage our traditional dealer network to improve their sales methods.

Summary

Our plans for 2018 are to continue to counsel our dealers, provide support and input to their sales techniques and web site presences. We will also continue to keep abreast of the increasing number of Amazon rules and regulations in order to maintain our rating of “Excellent”.

DEVELOPMENT

Lauren Clarke, Development Manager

The Diamond Club

2018 Goal: \$365,000

2017 Goal: \$340,000

Members as of September 2017: 1,645

Diamond Club continues to have great potential, and we have again increased the 2018 goal to reflect this. Efforts to gain new members and increased current Diamond Club members donations include soliciting Term members when they are asked to renew basic membership (note: Development will be working with Circulation and Membership to development new strategies for this), robust efforts to reach out to lapsed DC members, solicitation of Life Members, building the sustained giving program, and focusing on retention. A buck slip promoting sustained giving has been developed and is included with all DC renewals.

The Diamond Terrace, started in 2007, currently holds 2,185 engraved bricks; 134 bricks were placed in 2016, and 125 engraved bricks have been placed to date in 2017. The space for available bricks is dwindling quickly as placing an engraved brick is a very popular benefit of the Diamond Club. A request to expand the Diamond Terrace in 2018 has been included in the Capital Plan. Since the Terrace can no longer support additional benches, staff worked together to be able to place benches outside of W1AW. There is currently room for two more benches. The donation for placing a bench is \$10,000 to the Diamond Club.

At the close of 2016, there were 1,707 Diamond Club members with a total giving of \$367,594 from 466 Life Members and 1,241 Term members

The ARRL Maxim Society

The ARRL Maxim Society honors ARRL donors whose cumulative life time contributions to ARRL reach \$10,000. We currently have 221 members in this distinguished group; 10 have been welcomed to date in 2017.

The Development Office worked with the IT staff to create a report to better track donors who are getting close to the \$10,000 threshold, so that special notes can be sent to make the donors aware. The Maxim Society is a goal for many donors, especially so they can be recognized at the Annual ARRL Donor Reception in May. Many Maxims continue to give to ARRL; it is vital that ongoing communication occurs to further strengthen these relationships.

The Legacy Circle

ARRL has been the beneficiary of several bequests, some quite large. The Development Office also receives inquiries about planned giving on a regular basis. When a member informs us that s/he is leaving ARRL in his estates plans, a copy of the documentation is requested which is kept in a confidential file until the gift is realized. Most, but not all, members agree to this, and they are recognized in The Legacy Circle.

While gifts may not be realized for many years, bequests and other planned gifts have tremendous potential to finance ARRL in the future. Marketing efforts are kept simple, and could be enhanced by targeted mailings.

ARRL Funds

The Spectrum Defense Fund:

2018 Goal: \$285,000

2017 Goal: \$310,000

The Spectrum Defense Fund has struggled to meet its annual goal for some years now; the 2016 revenue was \$259,647 from nearly 3,000 donors. As always, Development plans both spring and fall direct mail solicitations, timely mailings to targeted groups of members, personalized e-mail solicitations and e-blasts to yield the best results.

Development has traditionally offered premiums for donations to the Defense Fund: a pin for gifts of \$50 or more, and a mug and a pin for gifts of \$100 or more. A special “series” was introduced in 2014, based on the colors of ARRL’s five columns. 2018 will be the last of this series. Development will re-evaluate offering premiums in 2019 – reports show that while a smaller percentage of Defense donors request premiums, their average gift is higher than non-premium donors.

The Education & Technology Fund:

2018 Goal: \$145,000

2017 Goal: \$140,000

The Education & Technology Fund receives several large gifts from major donors, many of whom have supported the fund at a significant level since the start of the Teachers Institute program. While the Teachers Institute continues to be successful, changes in the Education Department will require special communication with these donors. Moving in a positive direction, such as developing curricula and working with local schools, will provide ARRL with a strong message about the important role of Amateur Radio in education.

Development produced a direct mail solicitation sent this fall to 45,000 members. The average gift to the Education & Technology Fund is smaller than the other funds.

The Legislative Issues Advocacy Fund:

2018 Goal: \$45,000

2017 Goal: \$65,000

The Advocacy Fund was approved by the A&F Committee in November 2014. Continued communication and awareness of the state of the Parity Act greatly impacts this fund. Development has planned another direct mail solicitation for 2018 pending the Parity Act's status.

Other Development Activities

Membership Loyalty Program:

This year, 3,204 members were recognized this year in the Membership Loyalty Program. The newly designed acknowledgement cards with pins attached were mailed out in CD boxes, greatly reducing the number of damaged pins received by our donors. Nearly 25 members purchased a specially-designed, personalized plaque through the e-store.

In 2018, 3,285 members will be recognized.

Annual ARRL Donor Reception:

The annual donor reception in Dayton on the Thursday evening preceding Hamvention is a favorite tradition for our guests. This gathering brings together ARRL Board members and leadership donors, including Maxim Society and Legacy Circle members, together with spouses.

IRA Distributions:

Last year, the Internal Revenue Service made permanent the ruling to allow individuals over 70 ½ to donate (transfer) funds from their IRA's directly to a qualified non-profit organization tax free. This is a very attractive alternative for many of our members, and Development has been making members aware of this ruling to encourage donations.

RADIOSPORT & FIELD SERVICES

Norm Fusaro, Radiosport & Field Services Manger

Radiosport

In 2018, we must look at the shift in operating habits of radio amateurs, advancing technology, and the value of the programs offered from the Radiosport department. Electronic QSL (LoTW), remote operating, and digital communications are just a few of the technologies that are changing the ham radio landscape and how hams participate. Not only has technology changed Amateur Radio but, the radio amateur is changing. They have busier schedules allowing less time for ham radio. Newer hams are incorporating ham radio with other activities. The new hams are not attracted to traditional ham radio activities and we must be sympathetic to their needs because they are the future of ham radio. This includes, but is not limited to contest and on-air activities, awards, and emergency preparedness.

Moreover, if we want to make informed decisions we must collect and analyze data, identify trends, and report our findings to the Programs and Services Committee. It is important that we are in front of the changing demographic, ready with activities and programs that offer membership value to the new hams.

Awards

The gold standard by which serious radio operators measure themselves is DXCC. Every effort will be employed to make sure that the integrity and popularity of DXCC is maintained, however, we must consider the new DXer's operating habits are different because of the reasons mentioned above – technology and time. Operating awards appeal to a broad range of operators. There already exists a long list of award sponsors who offer recognition for a variety of accomplishments. ARRL must look at adding these awards to the LoTW award inventory.

Currently LoTW enjoys a considerable amount of traffic in spite of its limited award offerings. Of the more than 98,000 LoTW users about 45,000 are ARRL members. Other than QST, there isn't any other program or service offered by ARRL that enjoys such a significant membership penetration. Giving LoTW users the ability to apply for awards using LoTW QSO credits, where ARRL collects a fee on applications that pass through LoTW, not only has strong revenue potential but would place ARRL and LoTW as the go to place for operating awards.

In 2018, as part of our data collection and analysis plan, we will be analyzing data from LoTW to develop a strategy to expand the award offerings in LoTW and in turn, drive top line revenue.

Special Operating Events

If we have learned anything from operating events like Centennial QSO Party and National Parks on The Air it is that hams want a reason to get on the air, they want activities that fit their schedules, and they want to be amused when not on the air making contacts. The event scheduled for 2018 will be the "2018 international Grid Chase." The internal goals of the event are to promote LoTW

to the DX operators and to use the contacts to drive the operating awards offered through LoTW. This event will offer the radio amateur flexible opportunities to get on the air and make contacts, explore different modes, and some fun with statistics seen on the leader board. We have allocated \$5,000 to be used for awards in this event.

Contests

In 2017, we began work on a project that would allow contest participants to download and print their own certificates with their name, call sign, score and placement. This service will be available in early 2018. We estimate an approximate savings of \$13,000 just in printing and postage. There will be a significant labor savings since we will no longer fulfill certificates at HQ.

We are reviewing work that is done in house and by outside consultants to determine where we can optimize service vs. cost. We will report our findings to the appropriate board committees.

In 2018, we will continue to analyze trends in contest activity and report to the PSC.

Inventory and Shipping

The Radiosport department has many moving parts and we are always looking at things that impact the budget. We have implemented new policies and procedures for ordering and managing on-hand inventory of plaques for contests and awards. We are using an international mailing service through Federal Express (FIMS) for shipping plaques and certificates outside USA. We have realized nearly \$10,000 reduction in expenses. In 2018, we will continue to look for opportunities to economize.

QSL Bureau

After careful review and analysis, a new rate structure was adopted for the Outgoing QSL Service beginning 2017 and procedures put in place to ensure accurate recordkeeping. Initial indications are that members are using the QSL bureau as intended. It will be necessary to complete a full operating cycle then analyze the data before making any assertions, however, the trend indicates, possibly with a few adjustments, the Outgoing QSL bureau could be self-sustaining.

No changes have been made to the Incoming QSL bureaus. In 2018, we intend to survey the members to develop a plan that provides a sustainable service. We will report our conclusions to the PSC late in 2018.

Emergency Preparedness

The core mission of the Emergency and Preparedness Department is to build relationships and manage volunteers.

Managing volunteers requires a dedicated volunteer management platform used by all program participants. We are contracting with a company which specializes in volunteer management software products. The web-based application will be available to all program participants from

HQ staff to the individual volunteer. Of course, the permissions and functionality is determined by a person's level of responsibility. Estimated annual cost \$10,000

ARRL is represented at National VOAD, NPSTC, Skywarn, and National Hurricane Conference. The 2018 budget for these meetings is \$7,000

As part of addressing the needs of the new hams, when developing on the air activities in Radiosport we will be mindful of the many new hams that are getting licensed to participate in emergency communications and preparedness. The goal is to create fun activities not found elsewhere that provide training for the new operators.

Field Services

The Field Services have a huge impact on the budget. This is not a revenue generating department however there are some intangibles that can be realized for our investment. Beginning with the section managers' workshop the message must be promoting ARRL membership. In 2018, we will develop a strategic plan to assist the Field Service volunteers with promoting value in ARRL membership. We expect to present a plan to the PSC in early 2018.

VOLUNTEER EXAM COORDINATOR

Maria Somma, VEC Manager

1. Department Mission and Goals

The ARRL VEC provides licensing examinations for prospective new hams and upgrade examinations for those already licensed. It also assures that a sufficient number of examination opportunities are available on a schedule that is convenient to the applicants.

The ARRL VEC will provide the examination candidate with tests that meet all applicable requirements of current Federal Communications Commission Rules and Regulations and are administered in accordance with those requirements and generally accepted educational testing principles and practices.

The ARRL VEC will provide a service level of the highest order to our customers, the Volunteer Examiners. -- Resolution of the ARRL Board of Directors (1989 Annual Meeting)

2. Staffing

The ARRL VEC has met and will continue to meet our program goals using teamwork and cross training as effective tools within the department.

3. Products and Services

Volunteer Examiners

- Accredits qualified Volunteer Examiner (VE) applicants by soliciting across a broad spectrum of Amateur Radio operators.
- Registers and publicizes the scheduled exam activities of ARRL VE teams.
- Supports VEC services at hamfests/conventions.
- Conducts special mailings to VEs and to new licensees.
- Participates as a member of the National Conference of VECs Question Pool Committee.

Exam Administration

- Supplies printed exam materials and/or software to meet the VE team's examination needs.
- Receives and processes the completed exam session results and electronically files successful applicant license data and club license data to the FCC.
- Answers exam and license related inquiries regarding the licensing process.
- Files all test session data electronically to the FCC within three (3) business days or less.
- Maintains the highest degree of service and integrity in ARRL VEC examinations.

Call Sign Administration

- Administers the International Amateur Radio Permit (IARP) program for FCC and ARRL.
- Manages the FCC Club Call Sign Administrator program for FCC and ARRL, as one of three such coordinators, to provide an electronic filing mechanism for FCC Club Station License applications. Provides FCC-license renewal notices to clubs.
- Administers the 1x1 Special Event call sign program for FCC and ARRL, as one of five such coordinators.
- Provides FCC license renewal notices to ARRL members. We will process license renewal requests received from members at no charge. Non-members will be charged a fee.
- Manages the electronic filing mechanism for FCC License modifications (changes in name/call/address). The service is available to ARRL members for free and to non-members for a fee.

Additional Services

- Manages and maintains the *QST* Silent Key column.
- Administers the License Class Certificate Program.
- Successful organizational presence at annual NCVCC conference and fosters connections with other VEC organizations.
- Assists with field-based membership recruitment by providing ARRL Volunteer Examiners with tear-off pads promoting membership to newly licensed hams at VE exam sessions.
- Maintain, update and improve areas of the website for which we are responsible.

VEC Program Results

Table 1 compares program results and projections over the past few years. In 2017 we are meeting all of our program goals and have maintained the VEC market share goal (Table 2). Program levels (Table 1) are projected to decline in 2018.

TABLE 1: ARRL VEC RESULTS AND PROJECTIONS				
ARRL VEC ACTIVITY	2015	2016	2017 Projected	2018 Projected
Exam Sessions Held	7,371	7,494	7,000	7,000
Exam Applicants Served	38,261	38,097	37,000	33,000
Elements Administered	50,004	50,081	48,000	43,000
New VEs Accredited	2,129	2,103	2,000	2,000
New and Upgraded License forms transmitted to FCC	32,764	32,403	32,000	29,000
License Renewals and Changes transmitted to FCC	10,069	11,506	10,000	10,000
Total Club License applications transmitted to FCC	1,322	1,797	1,300	1,300

TABLE 2: ARRL VEC MARKET SHARE

FCC LICENSES ISSUED	2012	2013	2014	2015	2016	2017 Projected	2018 Projected
NCVEC License Activity	37,365	38,211	43,797	43,301	43,169	42,000	38,500
ARRL VEC License Activity	27,505	29,352	33,073	32,764	32,403	32,000	29,000
ARRL Market Share of Exams Given	74%	77%	76%	76%	75%	76%	75%

FCC Activity

New Amateur licenses issued are down 7% over last year. 2014 through 2016 boasted a record-setting pace for new hams (new licenses through August: 22,834 in 2016, 21,349 in 2015, and 23,963 in 2014). Upgraded licenses are down 17% compared to the same period last year (upgraded licenses through August: 8,016 in 2016, 8,138 in 2015, and 7,488 in 2014). Excitement generated by the ARRL Centennial made 2014 a record breaking year for VEC. This enthusiasm carried over into 2015 and 2016. Beginning in 2017 and going forward, license activity is predicted to stabilize and return to more “normal” levels and continue to slightly decline over the next few years.

We anticipate maintaining our share of total exams given at approximately 75% (Table 2). We are cautiously optimistic about the number of new licensees. We forecast 29,000 new licensees and 9,500 upgrade licensees in 2018 (Table 3). Our outlook for the coming year does not show growth over 2017.

A new Technician class question pool will take effect on July 1, 2018. We expect an adjustment period when a new question pool is introduced to the public as VEs, teachers, and candidates must prepare new study and exam materials. No question pools were scheduled to be updated or released in 2017.

TABLE 3: NEW AND UPGRADED FCC LICENSES BY YEAR

FCC ACTION	2012	2013	2014	2015	2016	2017 Projected	2018 Projected
New Licenses							
Technicians	23,974	25,621	29,223	28,504	28,927	26,500	26,000
Generals	2,596	2,777	3,191	2,979	2,982	2,500	2,500
Extras	512	488	827	594	643	500	500
Total New	27,082	28,886	33,241	32,077	32,552	29,500	29,000
Upgraded Licenses							
To General	7,536	6,790	7,711	8,200	7,305	7,000	7,000
To Extra	2,747	2,535	2,845	3,024	3,312	2,300	2,500
Total Upgraded	10,283	9,325	10,556	11,224	10,617	9,300	9,500
GRAND TOTALS	37,365	38,211	43,797	43,301	43,169	38,800	38,500

4. New Initiatives and Services

The VEC exam fee will remain at \$15 in 2018. With increasing shipping and printing charges, expense control will continue to be a priority for us.

The ARRL VEC continues to maintain its position as the largest VEC in the nation. The ARRL VEC market share of total Amateur Radio exams administered fluctuates between 72 and 76 percent. A significant challenge facing us is to remain competitive in the Amateur Radio examination market as our competition modernizes their operations. Our market share will decline as teams and candidates choose VECs that offer field data entry and reduced or free license examinations.

We are in the process of moving the entire VE program data off a legacy computer system onto a web-based application. When the new program is in place, our objective will be to increase ARRL VEC sponsored session activity and our market share of exams given. We must modernize certain functions or we will not remain competitive. We can meet this challenge by developing and implementing a secure web page for delivering post exam session information from VEs in the field to the VEC system. The interactive page will allow a select group of VE teams in the field to send to HQ basic information related to the conducted exam session and all information relevant to the successful candidates. To comply with FCC rules, the teams would still need to mail the original exam documents to VEC. We will also be able to create and integrate interactive online forms to enhance our customer satisfaction and improve their website experience. The desired outcome would not only be to improve and streamline functionality but to shift some of the data entry workload to the VE Teams.

5. Acquisition and Retention

The more we understand our customer's wants and needs and meet those needs on our website and in our marketing, the better we will attract and serve them. We should be the knowledgeable source of FCC, VEC and VE information, while marketing our products and services to ARRL VEs, potential VEs, examinees and customers.

We will continue to redesign web pages and the VEC section of the website. We will increase content and information and add instructional and informative videos about exam sessions, FCC and VEC forms, FCC rules and license management. None of our competitors are doing this. Our strategy is to provide a superior overall experience for our customers and potential customers.

The free information we provide should serve as a way of keeping customers at the site, or getting them to come back. Changing and updating the content frequently encourages customers to visit the site more often, which is a powerful and cost effective marketing strategy.

ARRL should be the industry leader for VEC information, attracting both ARRL and non-ARRL VEs to our website. We will provide a superior overall experience for our customers and potential customers, which will increase traffic to our website and improve our acquisition rates.

INFORMATION TECHNOLOGY

Michael Keane, IT Manager

Information Technology

The IT Department went through 2017 with no changes in staff. IT was able to complete a number of planned and unplanned projects while continuing to make progress on the major strategic objective of replacing our major legacy IT systems.

Several projects were completed or begun in 2017, both planned and unplanned, including:

- Responded to a failure of the legacy hardware on which the Siebel system depended by creating a “virtual host environment” in which Siebel would run and moving production operations to this new environment.
- Made changes to VEC data entry operations to eliminate dependence of VEC on Siebel
- Migrated the ARRL web site (www.arrl.org) to new version of its host operating system (CentOS 5 to CentOS 6), a change that was necessitated by CentOS 5 reaching its end of support life.
- Outside contractor (Surge) completed the design and began coding of the DXCC replacement project
- Completed requirements gathering and began coding, test and deployment of the web site support for the “Grid Chase” operating event in 2018.

Work on Logbook of the World reached a major milestone in 2017 with the deployment to production of a new back-end system based upon the Open Database Connection (ODBC) method of accessing the LoTW database. This accomplishment represents the retirement of a significant part (but not all) of Logbook’s “technical debt” And it has freed up software development resources to begin implementation of some long-delayed improvements and enhancements to LoTW. The first of these is the addition of support for CQ Magazine’s WAZ award program support which will be followed by support for the 5-Band DXCC award.

For 2018, the major goal of the Information Technology Department continues to be the long overdue retirement and replacement of our legacy systems: DXCC, Siebel (specifically the Membership and Development functions which remain in Siebel), the ARRL web site and VEC. It is critically important that we continue to focus on successful completion of these projects.

We need to allocate sufficient resources to these legacy systems over the next two years. While we believe that we have the internal resources to complete these projects, any additional, unplanned resource allocations will compromise our ability to complete the necessary work.

Detailed specifications for the Membership & Development “module” are being reviewed by the relevant internal “stakeholders”. In 2018, we plan to begin the process of identifying requirements for a new web presence as well as exploring the option of engaging outside expertise in project management and visual design to assist in executing what we expect will be a very large and complicated project

As for the ARRL computer infrastructure, the plan is to re-invest in keeping hardware up-to date by replacing units that will be 5+ years old in 2018.

We have identified the following projects for the IT Department in 2018. This is the priority list with which we will begin the year although this does not mean that priorities won’t change or projects won’t be added. However, if projects are added it will likely change the priorities and impact the delivery of the projects deemed lower on the priority list.

High Priority Projects:

1. Membership and Subscription Module in AIS (Includes Development module) – Detail specifications are currently in review/sign-off. This project includes:
 - a. Web membership application/renewal
 - b. Automatic renewal of membership
 - c. Membership account management
2. Logbook of the World
 - a. Technology refresh and web site redesign (Logbook 2.0)
 - b. New awards
3. ARRL Web Site
 - a. Requirements collection
 - b. Visual design consultation

Medium Priority Projects:

1. Improvements to newsletter editor.
2. Provide support for the creation and implementation of a secure web site portal for the transmission of test information from VEC teams.
3. Self-serve contest certificate printing

Generally, it should not be assumed that these projects will be completed in the order shown above. Application of IT resources will be to higher priority projects over lower priority projects. However, because there are limited resources (mostly staff time) available to be assigned to projects, the order in which projects are started, worked on and completed will not necessarily follow the list exactly. Multiple projects will be in progress simultaneously and in different stages of completion.

WASHINGTON

Jon Siverling, Technical Relations Specialist

The Washington Office manages much of the organization's three advocacy functions:

- 1) Fees for the General Counsel, whose objectives will be determined by the Board and the CEO through the course of the year.
- 2) Fees for the legislative relations firm for the pursuit of legislative objectives and for the Lexis State Legislative service, for the monitoring of state legislative developments.
- 3) Operations and travel cost for Jon Siverling.

ARRL Participation at International Meetings - 2018

The following meetings will require ARRL participation in 2018.

ITU Plenipotentiary Conference

WP 5ABCD, SG 5, TG 5/1

WP 1ABC and SG1

CITEL Assembly, PCC.I, PCC.II, COM/CITEL

FMRE, FRACAP

The amateur and amateur satellite services have to continuously defend Amateur Radio allocations and to avoid being blindsided at each step along the path toward a possible allocation action. The World Radiocommunication Conference (WRC) calendar drives the process.



¹ *ITU-R groups in which we participate:*

- ◆ Radiocommunication Advisory Group (RAG), advises the Director on management of the radio sector
- ◆ Study Group 1 (spectrum management and monitoring), also its Working Parties 1A (spectrum engineering) and 1B (spectrum administration)
- ◆ Study Group 5 (Terrestrial Services - Systems and networks for fixed, mobile, radiodetermination, amateur and amateur-satellite services.)
- ◆ Study Group 6 (broadcasting) and Working Party 6E (terrestrial emissions)
- ◆ Study Group 7 (science services), Working Party 7C, (earth exploration-satellites), 7D (radio astronomy) and 7E (conference preparation)
- ◆ Study Group 9 (fixed service) and Working Party 9C (HF fixed)
- ◆ Conference Preparatory Meeting (CPM)
- ◆ Special Committee for Regulatory and Procedural Matters

- ◆ The ITU Plenipotentiary Conference 2018 (Plenipot-18) will be held October 29 – November 16, 2018 in Dubai, UAE. The Plenipotentiary Conference is the top policy making body of the ITU that decides the 4-year road map of the organization. Typically there are some 2000+ delegates from almost all of the 193 Member States attending. Elections are held during week 1 for the five elected officials (Secretary General, Deputy Secretary General and the three Directors), as well as for members of the Radio Regulations Board and Council (25% of Member States). Doreen Bogdan-Martin (ITU Chief, Strategic Planning and Membership and KD2JTX) is the candidate from the Americas Region running for the position of the Director of the Development Bureau (Dir. BDT). She is a strong champion for Amateur Radio and ARRL should assist gathering support for her election in any way possible.

The Plenipotentiary Conference shall:

- a) Determine general policies for fulfilling the purposes of the Union;
 - b) Consider reports by the Council on the activities of the Union since the previous plenipotentiary conference and on the policy and strategic planning of the Union;
 - c) Establish the strategic plan for the Union and the basis for the budget of the Union, and determines related financial limits;
 - d) Establish the total number of contributory units for period up to next PP;
 - e) Provide general directives dealing with the staffing of the Union;
 - f) Examine the accounts of the Union and finally approve them;
 - g) Elect the Member States which are to serve on the Council;
 - h) Elect the Secretary-General, the Deputy Secretary-General and the Directors of the Bureaux of the Sectors;
 - i) Elect the members of the Radio Regulations Board;
 - j) Consider and adopts modifications to the Constitution and Convention;
 - k) Conclude or revise if necessary agreements with other international organizations;
 - l) Adopt and amend the General Rules of conferences, assemblies and meetings of the Union;
 - m) Deal with such other telecommunications questions as may be necessary.
- ◆ WP 5A is to review existing Questions and Recommendations affecting the amateur and amateur-satellite services, and will further studies of bands above 275 GHz.

ITU-R Study Group 5 (SG 5)

(Terrestrial Services - Systems and networks for fixed, mobile, radiodetermination, amateur and amateur-satellite services.)

Four Working Parties (WPs) carry out the studies on Questions assigned to Study Group (SG) 5 and one Task Group (TG 5/1) conduct studies to prepare for WRC-19.

ITU-R Working Party 5A (WP 5A)

(Land mobile service *excluding* IMT; amateur and amateur-satellite service)

Working Party 5A is our “home” within the ITU-R Study Groups.

WP 5A meets between five to ten working days; SG 5 meets for two days typically. Internationally, WP 5A is divided into smaller groups - key to us is WG 5A – 1 (amateur services). ARRL also participates in other meetings to learn who may be interested in our frequencies and to keep abreast of new technologies.

ITU-R Working Party 5B (WP 5B)

(Maritime mobile service including the Global Maritime Distress and Safety System - GMDSS; the aeronautical mobile service and the radiodetermination service)

WP 5B is responsible for studies related to the maritime mobile service, including the Global Maritime Distress and Safety System (GMDSS), the aeronautical mobile service and the radiodetermination service, including both radiolocation and radionavigation services. It studies communication systems for the maritime mobile and aeronautical mobile services and radar and radiolocation systems for the radiodetermination service.

ITU-R Working Party 5C (WP 5C)

(Fixed wireless systems; HF systems in the fixed and land mobile services)

WP 5C is responsible for studies related to fixed wireless systems and HF systems in the fixed and land mobile services. It studies performance and availability objectives, interference criteria, RF channel/block arrangements, system characteristics and sharing feasibility. (Note that for fixed wireless access (FWA) systems, work related to public access systems for potentially large deployment coverage is carried out in WP 5A.)

ITU-R Working Party 5D (WP 5D)

(IMT Systems)

WP 5D is responsible for the overall radio system aspects of International Mobile Telecommunications (IMT) systems, comprising the IMT-2000, IMT-Advanced and IMT for 2020 and beyond. Working Party 5D will essentially use the same process utilized in the development of IMT-Advanced. In the next phase, in the 2016-2017 time-frame, WP 5D will define in detail the performance requirements, evaluation criteria and methodology for the assessment of new IMT radio interface.

Working Party 5D also plans to hold a workshop in late 2017 that will allow for an explanation and discussion on performance requirements and evaluation criteria and methodology for candidate technologies for IMT-2020 that has been developed by WP5D, as well as to provide an opportunity for presentations by potential proponents for IMT-2020 in an informal setting.

ITU-R Task Group 5/1 (TG 5/1)

(WRC-19 agenda item 1.13)

WRC-19 agenda item 1.13

“to consider identification of frequency bands for the future development of International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution 238 (WRC-15)”,

Task Group 5/1 will conduct the sharing studies required for the IMT above 24.25 GHz agenda item at WRC-19 (the non-sharing work will be conducted in Working Party 5D).

- all involved parties in frequency bands and services mentioned in Resolution **238 (WRC-15)** are invited to actively participate, as the responsible group for WRC-19 agenda item 1.13;
- with regards to spectrum needs, technical and operational characteristics including protection criteria, and deployment scenarios for the terrestrial component of IMT by 31 March 2017;
- that the technical characteristics including protection criteria for existing services allocated in, or adjacent to, the bands identified in *resolves to invite ITU-R 2* of Resolution **238 (WRC-15)**;
- the development of draft Conference Preparatory Material (CPM) text under WRC-19 agenda item 1.13 and that it will submit such text directly to the CPM-19.

ITU-R Study Group 1 (SG 1) (Spectrum Management)

Spectrum management principles and techniques, general principles of sharing, spectrum monitoring, long-term strategies for spectrum utilization, economic approaches to national spectrum management, automated techniques and assistance to developing countries in cooperation with the Telecommunication Development Sector.)

Three Working Parties (WPs) carry out studies on Questions assigned to Study Group (SG) 1:

- WP 1A Spectrum engineering techniques
- WP 1B Spectrum management methodologies and economic strategies
- WP 1C Spectrum monitoring

The goals of ITU-R Working Parties 1A, 1B and 1C activities are to develop and maintain ITU-R Recommendations, Reports and Handbooks relevant to spectrum engineering, techniques, spectrum management fundamentals and spectrum monitoring, respectively.

ITU-R Working Party 1A (WP 1A) (Spectrum engineering techniques)

Spectrum engineering techniques, including unwanted emissions, frequency tolerance, technical aspects of sharing, spectrum engineering, computer programs, technical definitions, Earth-station coordination areas and technical spectrum efficiency. Working Party 1A addresses bands from 275 GHz and above.

Issues that impact Amateur Radio in WP 1A include Wireless Power Transmission (WPT), the coexistence of telecommunication systems with wires and radiocommunication systems and related matters, including power line telecommunications (PLT) and smart grids. This will include the new threat posed by Apple which has contributions into WP 1A for magnetic resonant

technologies for mobile/portable devices in the 100 – 150 kHz range with potentially a harmful impact to the Amateur secondary allocation from 135.7 to 137.8 kHz.

Question ITU-R 210-3/1 addresses “Wireless power transmission (WPT) and related issues” and will be dealt by ITU-R WP1A and WP1B. The main areas of work to be studied are:

- Under what category of spectrum use should administrations consider WPT: ISM*, or other? (*Industrial, scientific, medical)
- What radio frequency bands are most suitable for WPT?
- What steps are required to ensure that radiocommunication services are protected from WPT operations?

Wireless Power Transmission (WPT) has been identified as “Urgent studies required in preparation for the World Radiocommunication Conference 2019” (Resolution 958 WRC-15).

1) Studies concerning Wireless Power Transmission (WPT) for electric vehicles:

- a) to assess the impact of WPT for electric vehicles on radiocommunication services;
- b) to study suitable harmonized frequency ranges which would minimize the impact on radiocommunication services from WPT for electrical vehicles.

These studies should take into account that the International Electrotechnical Commission (IEC), the International Organization for Standardization (ISO) and the Society of Automotive Engineers (SAE) are in the process of approving standards intended for global and regional harmonization of WPT technologies for electric vehicles.

2) Studies to examine:

- a) whether there is a need for possible additional measures in order to limit uplink transmissions of terminals to those authorized terminals in accordance with No. **18.1**;
- b) the possible methods that will assist administrations in managing the unauthorized operation of earth station terminals deployed within its territory, as a tool to guide their national spectrum management program, in accordance with Resolution ITU-R 64 (RA-15).

3) Studies on the technical and operational aspects of radio networks and systems, as well as spectrum needed, including possible harmonized use of spectrum to support the implementation of narrowband and broadband machine-type communication infrastructures, in order to develop Recommendations, Reports and/or Handbooks, as appropriate, and to take appropriate actions within the ITU Radiocommunication Sector (ITU-R) scope of work.


ITU-R Working Party 1B (WP 1B) (Spectrum management methodologies and economic strategies)

Spectrum management fundamentals, including economic strategies, spectrum management methodology, national spectrum management organization, national and international regulatory framework, alternative approaches, flexible allocations and long-term strategies for planning. The results of the WPT studies will be treated in the draft CPM Report to WRC-19 as issue 9.1.6 under

WRC-19 agenda item 9.1. WP 1B is the responsible group for this agenda item, while WP 1A, WP 5B and WP 6A have been identified as contributing groups.

ITU-R Working Party 1C (WP 1C) (Spectrum Monitoring)

Spectrum monitoring, including the development of techniques for observing the use of the spectrum, measurements techniques, inspection of radio stations, identification of emissions and location of interference sources.

	<p>Inter-American Telecommunication Commission (CITEL)²</p> <ul style="list-style-type: none">◆ CITEL Assembly◆ CITEL PCC.II (radiocommunications including broadcasting) mirrors the ITU Plenipotentiary Conference, CPM and WRC-19 preparations◆ Rapporteurship on disaster prevention, response and mitigation – Chair: USA (ARRL)◆ COM/CITEL meets once each year - critical to continue to participate in this exclusive management body.
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The 7th CITEL Assembly will be held in February in Argentina. It is the highest body of the organization and will have the following on the agenda.

- Establishing the policies for achieving the objectives and functions set out in Article 3 of the CITEL Statute;
- Electing the members of COM/CITEL;
- Establishing the Permanent Consultative Committees;
- Approving the request for membership in CITEL of American States that are not members of the Organization subject to ratification by the General Assembly of the Organization;

² CITEL is the regional telecom organization for the Americas, part of the Organization of American States (OAS), with secretariat in Washington, DC

- ◆ Jon Siverling participates in CITEL as a member of the US Delegation
- ◆ IARU Region 2 is a recognized observer, usually represented by an Area Director
- ◆ The CITEL Assembly is the highest body and will meet in 2018
- ◆ COM/CITEL, its executive committee, usually meets annually
- ◆ Permanent Consultative Committee I (Telecommunications/Information and Communication Technologies) (PCC.I) meets 2 or 3 times annually
- ◆ Permanent Consultative Committee II (Radiocommunications) (PCC.II) meets twice annually; three times in years with a World Radiocommunication Conference

- Proposing amendments to the Statute for approval by the General Assembly of the Organization;
- Approving the CITEL Regulations.

**Permanent Consultative Committee – I
(Telecommunications/Information and Communication Technologies) (PCC.I)**

Permanent Consultative Committee I (PCC.I) serves as the advisory body of CITEL in the area of telecommunications/ICTs, especially with regard to matters of telecommunication/ICT policy, regulatory aspects, standardization, cybersecurity, international Internet-related public policy matters—insofar as those matters involve telecommunication networks or ICT infrastructure—, universal service, economic and social development, environment and climate change, infrastructure development, and new technologies.

Rapporteurship on disaster prevention, response and mitigation – Chair: USA (ARRL)

This Rapporteurship, Chaired by the United States (**Chairman: Jon Siverling/ARRL**) is a part of the Working Group on Development (WGD). The Rapporteurship provides a unique opportunity to promote Amateur Radio throughout the Americas; and to ensure continued support by administrations of Amateur Radio. One example was the Emergency Communications Workshop held in Peru in 2015. The Rapporteurship supports disaster preparedness and serves as a means for Member States to channel their telecommunication needs regarding natural disaster early warning, mitigation and relief

Permanent Consultative Committee – II (Radiocommunications) (PCC.II)

The CITEL Permanent Consultative Committee II: Radiocommunications (PCC.II) typically meets twice each year. The 27th Meeting of PCC.II will be hosted by Colombia June 27 – July 1, 2017 in Bogota to continue preparations for WRC-19. The 28th Meeting is scheduled for September 19 – 23, 2016; venue TBD.

Impact to Amateur Radio: *all* Americas regional proposals for world conferences are developed in PCC.II.

Procedure for Mutual Recognition of CITEL IARP and CEPT Licenses

ARRL continues to promote Member States to adopt the International Amateur Radio Permit (IARP).

CITEL Working Group to Prepare for the ITU Conferences

The CITEL Working Group to Prepare for Conferences is the responsible group to prepare Inter American Proposals (IAPs) for World Conferences, to include World Radiocommunication Conferences, World Telecommunication Development Conferences, and the Plenipotentiary. This is where consensus is reached on agenda items which are then submitted to the ITU as regional proposals.

Impact to Amateur Radio: formation of positions and proposals for the Americas region are developed here. Once regional consensus is reached for each agenda item, the Inter American Proposal (IAP) is sent to the ITU. Proposals that favor Amateur Radio positions must be developed

in this Working Group and support developed for favorable proposals sought from Member States throughout the process leading up to world conferences.

FMRE National Convention

The Mexican Federation of Radio Amateurs

(Spanish: *Federación Mexicana de Radio Experimentadores* or FMRE)

Mexico passed new legislation last year and re-organized the national regulators which brought Amateur Radio to a screeching halt. No exams. No new licenses. This brought Amateur Radio to a screeching halt. No exams. No new licenses. For more than a year, FMRE President Victor Pinilla (XE1VP) has worked tirelessly to reestablish Amateur Radio in Mexico. They are not there yet. This past February (2016), in collaboration with IARU Region 2 Vice President Ramon Santoyo (XE1KK) and FMRE President Victor Pinilla (XE1VP), Jon Siverling conducted the ARRL Administration of Amateur Radio Course (ARAC) for regulators in Mexico City for regulators from Mexico and Belize. Eight regulators attend (two from Belize and six from Mexico). Two senior management from the Mexican Federal Institute for Telecommunications (IFT) (the IFT Director General – Telecommunication Concessions and the Head of the IFT Concessions and Services Unit) attended both the course's opening and closing ceremonies. More significantly: we were afforded the opportunity for private discussions with the two senior officials to explore how to improve Amateur Radio in Mexico. The six Mexican engineers who attended from IFT were completely inexperienced on how to regulate the Amateur Radio services and greatly appreciated the training tailored to the needs of IFT. There continues to be the requirement for ARRL to guide their regulator and liaison with FMRE. ARRL should, at a very minimum, continue to attend the FMRE National Convention (slated for October 2018 in Mexico City; FMRE President Pinilla is termed-out - it will be important for ARRL to maintain good relations with his successor.

Federation of Radio Amateurs of Central America and Panama (FRACAP)

(Spanish: *Federación de Radio Aficionados de Centro América y Panamá* or FRACAP)

FRACAP is the largest gathering of Radio Amateurs representing all of Central America.

ARRL participation promotes Amateur Radio in the region and affords unique opportunities to maintain close relationships with Amateur Radio activities and their respective regulators in six countries. ARRL participation often results in support for Amateur Radio issues at world conferences. ARRL participates each year in their convention and this participation should be continued.

COMMUNICATIONS

David Isgur, Communications Manager

ARRL's Communication/Public Relations 2018 plan will focus on two major themes: Creating More Content and Delivering More Content through Traditional and Social Media Platforms.

The Communication Team will meet with, and work with, all of the departments at ARRL HQ to develop ideas for visual stories that can be posted to our social media platforms and also used as story pitches to traditional media. The goal will be to get each department thinking about ways to showcase their work on behalf of ARRL members over a variety of media platforms and then develop plans to generate such showcases on a consistent basis.

The Communication Manager will also reach out to ARRL Section Managers and PIOs and PICs to make sure that information is flowing smoothly in both directions. This will help generate story ideas that the Communication Manager can pitch to national media outlets. In return, the Communication Manager will offer PIOs and PICs the tools and support necessary to generate positive stories in local media outlets.

In terms of creating more audio content, we will look to build on the success of ARRL's first podcast, "ARRL The Doctor is In" by finding and creating additional podcast subjects. In addition, we will use our other social media platforms to promote listenership for the ARRL Audio News podcast.

To meet the demand for additional audio and video content, the Communication team is looking to acquire portable lighting equipment, a better camera, a quality tripod, and a steady-cam system, within our budgetary constraints. We will review software options that will allow us to have better analytics of all our social media platforms, including our newly established Snapchat and LinkedIn accounts. In addition, we will review potential training courses or workshops that will allow us to make the most of the resources available to us.

We will explore ways to better utilize the space in the Media Room for our enhanced audio and video productions.

Another goal for 2018 will be to conduct an analytical review of the ARRL website, particularly the pages relating to news and media placements, and of the ARRL's social media platforms. The goal will be to improve visitors' ability to navigate to those pages and to streamline our social media pages and eliminate duplications. (For example, on Twitter, our ARRL_PR feed is just a duplication of our ARRL Twitter feed, so I believe we need to phase out the ARRL_PR feed and redirect its followers to the main ARRL Twitter feed.)

Lifelong Learning

Based on initial results of phone surveys and feedback from members, we are expanding the role and function of the former Education Department beyond simply teaching or instructing license classes. We believe the role of the department should be to provide lifelong learning opportunities for those individuals interested in all facets of Amateur Radio. To do this we will need to develop, and/or source from others, a significant amount of content to fulfill this role and development different delivery mechanisms.

The first order of business will be to identify and hire a department head who may or may not have a background in Amateur Radio but will have experience in curricula development and content development. The responses to the on-going survey will have a large impact on the direction we take for this function.

LAB

Ed Hare, Lab Manager

1. Mission Statement

The ARRL Lab provides ARRL members and the Amateur Radio community with technical information services, trusted product-review testing, spectrum-protection engineering, professional industry contact and a comprehensive RFI/EMC program.

2. Staffing Changes

No new staff will be added in 2018.

3. Current Products and Services

Current products/services w/projections by area:

- Product Review testing
- Technical Information Service and ARRL web page
- RFI Program
- Support of spectrum protection activities
- Support of publications
- Production of videos on various technical subjects.

Product Review remains one of the most popular columns in *QST*. The Lab expects to test approximately 80 pieces of equipment for Product Review in 2018, plus provide support as needed for non-tested products.

Led by Zack Lau, the Lab will continue to respond to member technical inquiries.

The Technology pages on the ARRL website are in need of significant updating. The Lab staff and volunteers are going to review all of the Technology pages and bring them into a current state. This will be done throughout the year, with approximately 25% of the pages reviewed and updated each quarter.

Power-line cases continue to dominate the RFI work done, and the Lab has been supporting policy efforts to improve the way that the FCC handles power line cases. Lab staff continues to serve on industry committees, especially in the RFI area. Lab staff work on various industry committees is now included as part of published IEEE and ANSI standards.

The Lab has begun to identify various noisy devices. This is expected to continue in 2018, as part of an overall strategy to address EMC problems from a combination of technical and enforcement perspectives.

The Lab has been working with the IEEE on a standard on the method/process to handle power-line cases and, although driven by IEEE timelines, it is expected that this standard can be on an IEEE ballot by mid-2018.

The Lab staff will continue to improve ARRL's relationship with the industry, in areas ranging from local Section and Regional participation to EMC.

The number and value of donated Amateur and test equipment donated to ARRL continues to increase. The Lab will continue to process this for sale or use. Most of the work for this program will continue to be done by volunteers.

The Lab will make continuing improvements to the W1HQ facility. This will include the resolution of noise problems currently limiting the use of the station.

The Lab is planning the production of a number of technical videos, for upload to ARRL's web page and Youtube. It is also identifying and categorizing a large number of videos that are available to Amateurs and including links to many of them on the ARRL technology web pages. As part of an overall strategy to do more webinars and podcasts, the ARRL Lab will provide talent as needed.

4. New Initiatives

High-speed digital communication is becoming more widespread in Amateur Radio communications. The Lab has begun to work with a group of Amateurs doing this work, the AREDN project, with the goal of completely familiarizing ARRL staff with the technology behind mesh networking and its potential use in routine and emergency Amateur communications. The timeline for the work on this through 2018 is:

Quarter	Milestone
4Q 2017	Familiarize staff with technology and deploy a mesh network within ARRL HQ as a demonstration
1Q 2018	Meet with local Newington area officials to plan a possible implementation involving AREDN nodes in the police, fire and shelter areas
2Q 2018	Install equipment into local police and fire facilities
2Q and 3Q 2018	Working with Mike Corey to plan the process of integrating and overlaying high-speed digital communication into the ARES program
3Q 2018	Design and assemble AREDN jump kits for possible deployment into EMCom situations
4Q 2018	Deploy AREDN jump kits to local Amateur teams to test the kits and feasibility of implementation