



CEO's Report to the Board of Directors July 2017

This report supplements the CFO's Report of same date, which is incorporated herein by reference. It also incorporates an appendix: Evaluation of Educational Programs, earlier provided to the PSC.

It focuses on overall ARRL performance against plan, as well as performance against five major areas of attention that follow from the 2015 Strategic Plan and from the 2017 Business Plan ("Five Big Things"). It also updates, selectively, on-going projects and initiatives discussed in past reports.

Five Big Things:

Following adoption of the 2017 business plan in November 2016, I indicated we would be focusing on five discrete areas of our operations.

1. Stabilize ARRL's finances: operating deficits received the most attention. For the six-months ended 6/30/17, ARRL had an operating surplus of \$369,000 compared with a deficit of (\$202,000) in the prior year. Total expenses were \$7,168,403 compared with \$7,684,890 in the same period of 2016, in part because of actions taken in late 2016 and more fully reflected this year. Improvement in the six-month results are largely expense-driven, and they include several non-recurring income items, but the core operating expense of the organization has stabilized. Core operating expense has been reduced more than \$500,000.

A company-wide expense discipline has taken hold among managers: a culture of stewardship. Several employee expense-saving initiatives, large and small, have contributed to the results, as the CFO reports. The shipping department's software change saves \$65,000 annually; purchasing has outsourced printer maintenance, expecting a \$5,000 annual savings; RadioSport orders a one-year advance supply of award plaques instead of three years, saving \$3,000 this year. These are typical examples. Staff recognizes that everyone can make a difference. To their credit.

Paper and postage increases, anticipated and planned for, did not materialize resulting in a favorable impact on *QST* publishing costs.

Along with expense control, we have focused on revenue growth—but with less success. Revenues are on or above plan in four important categories: *publications & products, advertising, dues & subscriptions, and contributions & support*. As a leading indicator, advertising revenues are holding close to plan. However, recall that 2017's advertising revenues are forecasted to be \$400,000 below 2015's actual revenues. Over the past three years, advertising has declined nearly 20%.

Program and service fees are about 20% below plan, which also continues a three-year adverse trend. This is visible in fewer new DXCC award applications, lower QSL bureaus volume and fewer contest log submissions. [see: **RadioSport**] VEC fees are off, owing to lower licensing activity. VE sessions remain unchanged, but the number of candidates is fewer in each session. The continuing program fees trend is a matter of some concern, and we are investigating possible causes and remedies. We are conducting a time-series analyses based on unique call signs. Staff continues providing the PSC with updated briefings on program activity data at each PSC meeting or conference call.

This year, we have benefited from legacy contributions. We received one large cash donation and are scheduled to receive two large estate bequests. In June, a 73-year member made a single, one-time donation of \$100,000. Two members' estates moved to probate unrestricted bequests totaling approximately \$730,000. Diamond Club, Spectrum Defense and Advocacy remain slightly behind plan for the six months ended 6/30/17. However, we expect our combined development activities to meet or exceed their overall plan.

To sustain all these efforts on multiple fronts throughout the year, the CFO and I continue our practice of regular meetings with each department manager to review results to date against plan, anticipate changes, and identify new requirements or opportunities. For some units, these meetings occur quarterly. Others occur monthly.

2. Corporate and institutional funding: To achieve the goals of the strategic plan, we must look beyond our own limited resources and seek help from those who share a common vision. In part, this has been achieved through the generosity of our patrons. But our most generous patrons are aging like our general membership. In the future, we will be unable to rely on their generosity. In anticipation, we are exploring additional, sustainable funding sources including family foundations,

charitable institutions and eleemosynary organizations. A subcommittee of A&F (Frenaye, Woolweaver, Morine) is developing a plan to access these sources. While still in the most preliminary stage, it's worth noting that several key features closely identify with success in outside fundraising: the availability of discrete projects to attract individual funding grants; the development of relationships with donor institutions and matching our projects to their goals; and a stable, accountable organization to act as the custodian of their generosity. Our 2016 annual report is redesigned to assist this initiative. It serves several purposes, including educating these institutions on the value of our community [see: **Annual Report**] and functioning as a persuasive, go-to source document for initial cultivation of institutional relationships. Success will entail *developing* a series of projects and activities for attracting funding combined with *cultivating* a diverse network of institutional donors. It will also require patience and persistence—since success is, like any sales effort, a function of time and the law of large numbers.

3. Outreach: This year, we experienced increased tempo of outreach activities.

In January, President Roderick and A&F Chair Pace recommended that I increase my personal member contact. I attend the usual circuit of convention events. In addition, I've made a special effort to appear at ham fests, meetings and conventions where senior HQ presence was specifically requested by Division Directors (Delaware State, Boxboro, HamRadio University LI, Harvard University Symposium, Western PA section, Southeastern—six Field Day sites, cabinet meetings) or by influential event organizers. I have also made presentations to approximately 25 clubs with a cumulative member contact of more than 1,100. These include clubs in northern New Jersey, New York, Connecticut, New Hampshire, Massachusetts, Florida and Pennsylvania. Frequently, the sponsoring clubs invite several nearby clubs to attend, which makes a more efficient use of my time. Each event concludes with a 30-45-minute town-hall-style Q&A session. Overall, these activities seem to be well-received. I plan to continue this for the balance of the year.

The editorial feature, *Second Century*, remains the most-read item in *QST*. Google Analytics reports that 82% of *QST* readers read it; and mail responses run 10:1 in favor of its editorial positions. *Second Century* remains our most influential platform to communicate with our traditional membership on any topic. However, our social media continues to bridge to legacy print media. For example, adding a human

face to editorial, in January we began producing “*Sixty-Second Century*,” a video preview of the monthly editorial for distribution on ARRL’s YouTube channel. The videos cue a younger new media audience to our print media, linking to *QST*, by “teasing” the editorial topics in advance of the magazine’s release. Views are climbing from the initial episode, but we’ll know more about its effectiveness once our YouTube channel has more original content to attract non-print readers.

I attempt to respond to every letter, email and telephone call, within 72 hours. I’m about 95% successful.

Unfortunately, outreach results in education (ETP) remain unacceptable. Education ought to be a powerful outreach tool; yet the results have been disappointing. In May, we dealt with the manager changeover without incident. On Johnson’s departure, I conducted a review of ETP. [see: **Evaluation of Educational Programs included as an appendix**] The complete ETP report was delivered to Education subcommittee chair Woolweaver, and then later to PSC chair Olsen. Historically, ETP’s efforts have been focused exclusively on two programs: support of AMSAT’s ARISS contacts; and Teacher’s Institute. ETP kept no data on the impact of either program. We confirmed that we have provided support in-kind to ARISS in the person of Mrs. Johnson equal to half of her time (support value approximately \$50,000 including fringe). Last year, ARISS conducted 30 school contacts. Two-thirds were telephone bridges, with radio equipment absent from the school site. The absence of direct contact between students and Amateur operators raises the question, how effective is ARISS for promoting Amateur Radio?

We had several conversations with AMSAT/ARISS to determine how to replace the services provided by Mrs. Johnson. We are recommending that, in lieu of personal services, ARRL contribute \$25,000, annually renewable, to the ARISS program. Notwithstanding the uncertain value to Amateur Radio of ARISS, we believe that discontinuing our support would be unadvised at this time.

The other ETP activity, Teachers Institute typically conducts three sessions each year—two TI-1 and one TI-2. This year we had insufficient applications to hold the more advanced TI-2 class; and overall applications were so sparse that we could barely fill the Newington and Dayton sessions with appropriate candidates. We accepted 90 % of applicants, and a 90% acceptance rate doesn’t represent a selective or competitive class. We did fill both sessions, and they will proceed according to schedule. But it’s not clear exactly how Johnson solicited

candidates for TI in the past. Most the applicants are junior public school teachers. Our pilot teaching program suggests that independent and charter schools having more curriculum flexibility are more open to ARRL programs. This year we added an astrophysics professor from University of Wisconsin and a Space Program Manager from the University of North Dakota to the Newington TI session. If we wish to achieve a more competitive, more diversified class of candidates, we must develop more diverse recruiting methods beginning this fall. We can use our TI grads to recruit next year's class and we can foster an alumni association-style relationship among TI classes. This year's session will include a request to report back to HQ any implementation of TI lessons after graduating

Over the past 15 years, ETP has spent \$2.8 million on TI programs and school grants. Over that period, we can identify about 6,000 students exposed to Amateur Radio because of TI teacher-student interaction, and we can identify about half that number as initially licensed. Cost us \$500 per exposure and \$1,000 per license. In fairness, no explicit evaluative criteria were determined at the outset, but these results are not satisfying.

The good news: in TI, we have an established and proven teaching model—on site, five day, intensive instructional program—with continuing sponsorship. TI has the capability to train in other domains, just for example: Emergency Preparedness, Youth Instruction, Scouting Amateur Radio, EMC Detection, in addition to the usual teacher study course. The methodology is essentially the same. We can, and in my view, should use the TI model to train in domains other than just grade school teachers.

Re-staffing ETP depends upon the board's response to the proposals to be raised by Diane Petrilli's working group. If the board generally concurs with the proposed Knowledge Management/Life-Long Education proposition, the job specification for ETP senior staffing will differ from those of the predecessor. Our research indicates, as was suggested in the January meeting, that sustaining membership begins with retaining new ham-new members and getting new hams on the air. That task is not being accomplished by our existing publications or programs. Attracting and retaining new members, our research reveals, depends upon a thoughtful convergence of creating knowledge management / life-long learning programs to educate new hams; and the use of Emergency Preparedness and other public service programs as an entry point. I reserve further comment to Petrilli and team's board presentation. From an ETP prospective, the next manager should be

experienced at outsourcing the creation, integrating and distributing educational content on a wide variety of platforms to a wide range of demographics. We should not look to ETP to create content.

4. IT Investment: We continue to make significant investment in replacing legacy IT systems, as the CFO's report details. There is nothing that I should or could add to the CFO's reportage. However, from an investment analysis perspective, it is important to recognize that our continuing RadioSport investment (DXCC) and (LoTW) is concentrated in member services which continue to experience declining activity and revenues. Ordinarily, it is imprudent to increase investment in declining markets; however, we all recognize that these activities are ARRL hallmark programs.

As an approach going forward, it's my hope that IT department devotes itself to project management rather than writing code. The apparent success of DXCC's outsource activities demonstrates contractors are more efficient and more technically current than our internal resources. For example, outside bids from vendors to create a national ARES registry confirm that a wide variety of COTS applications are available at a very low cost—in the case of the ARES registry, of about 25 cents per user member.

As an organizational principle, we can no longer afford to move at the speed of the IT department. That has some important staffing implications. In the spring of 2017, the SEIBEL applications driving the ARRL's core operating functions crashed for seven days. It required an extraordinary effort on the part of IT staff, including a risky hardware gambit, to restore them. Seven day outages are unacceptable.

5. Business process: the intense and continuing focus on improving business process and decision making is evident in the first half-year financial results. Increasingly, staff is more engaged in the process of making decisions and in taking ownership for these decisions.
6. Annual Report: Our annual report to the members and other stakeholders traditionally has been distributed via the ARRL website. Last year no more than 1,200 individuals clicked on the website link. We don't know how many actually downloaded the report and read it. Prior reports were written by individual department heads; they tended to be internally focused. This year, the editorial department undertook revising the annual report to increase its readership, to make it more approachable, interesting, informative, and understandable. An outside

designer was engaged to add a clean modern look, use more visual imagery and larger-scale photography, most of all, engage a wider number of ARRL people—members, board, staff, volunteers, patrons, donor and served agencies—in its coverage. To illustrate, the 2016 report mentions 148 different call signs—more than half of these are regular members.

Editorial staff assumed the content creation task—producing a coherent narrative around several themes to more fully, and clearly, explicate who we are, and what we do. This editorial shift is intended to make the annual report serve multiple purposes. In the past, several publications were created to report activities to members; to report to the general public (viz. Report to America); to report to regulators, legislators and served agencies; and to report to donors. Multiple publications are time-consuming and expensive to create. They lack consistent thematic unity and common messaging. They can be speckled with esoteric language not comprehensible to a non-amateur audience. The new format seeks to combine many goals with a single offering. We are printing a sufficient number of copies to support our proposed grant-seeking efforts, Washington operations including legislators and regulators, and other activities requiring a persuasive summary of ARRL.

7. RFinder /Repeater Directory: This year's repeater directory was revised in several ways. The action was prompted by concern with escalating up-front investment requirements (\$85,000+); falling demand for paper, as opposed to on-line, delivery; demands from readers for a more inclusive publication; and the use of our second-most-expensive book as a membership renewal premium. Using RFinder's database as the source, we made it available only in the desktop (spiral bound) version since the enlarged content would not fit into the pocket-sized version. We eliminated the DHF contract for IT services (\$25,000). We reduced our dependence on frequency coordinator data. Consequently, total investment in this year's directory is about \$34,500 versus \$89,000 last year. We expect to sell out of the first print run in September. If this occurs, total revenues will be \$81,000 compared with \$124,000 last year; but net margin on the book will be \$46,500 compared with \$34,500 last year—a 35% improvement. In 2017, we will make more margin on reduced sales with a lower (by two-thirds) investment at risk. Our directory margins exclude royalties from growing sales of RFinder applications averaging an additional \$5,000-\$6,000 quarterly.

Increasingly, on-line sources, especially the ARRL-RFinder application, are supplanting paper. Paper ages out between annual editions while electronic delivery via the RFinder App allows real time correction,

updating and duplicate elimination. A diminishing demand for paper directories over the past five years has been disguised by the practice of overprinting these books and then disposing of excess copies by giving them away as member renewal premiums. Our original directory had become less relevant to customers because it excluded uncoordinated repeaters, among other types, which customers were demanding be included in directories. Future demand for the paper versions is becoming increasingly difficult to anticipate. The nearly six-figure up-front cost involved with producing a paper directory posed a serious risk.

We decided not to run a second updated printing of the directory to protect our dealers' existing inventories. An updated edition with RFinder corrections will run in early 2018. We have prepared a QST advertisement to announce "sold out" in September and solicit advance orders ("be sure not to miss your copy"). The out-of-stock announcement should drive demand to remaining dealer inventories and encourage pre-orders. While there has been some push-back from coordinators, we have reminded them that ARRL is not in the coordinating business but rather in the publishing business, and publishers must produce what buyers want to read. The ARRL Repeater Directory and the ARRL-RFinder App remain the most comprehensive source of information about repeaters.

8. CQWPX Contract: ARRL and CQ Communications have a contract enabling the sharing of LoTW data for WPX purposes. Its existence surfaced recently as it came up for renewal on 12/30/17 with a 180-day notice period. It is a three-year, automatic renewal in the absence of notice contract, like the current RFinder contract. This style of long-term contract is unappealing to A&F and to management. My objective is to reduce the term to one-year, renewable on notice with a 30-day notice period. I attempted unsuccessfully to reach Publisher Dick Ross. Failing in several attempts to reach Dick, I was obliged to send notice of cancellation to CQ. The notice brought Dick to the phone, and we discussed the feasibility of changing the terms as described. With President Roderick concurrence, considering the inconvenience to our members associated with non-renewal, I offered CQ as an incentive to change the terms (but not the economics) a one-time, one-year pass-through of 100% of the fees, worth about \$16,000. We have proffered a contract and await CQ's response.
9. Washington DC/International: Last month I attended a CITEL meeting in Orlando with Jon Siverling. My immediate impressions: the work we perform is slow-moving, detail-oriented, and depends a great deal on trust and the relationships among the various delegates. I was greatly

impressed by how Siverling has stepped into his expanded role since the departure of Brennan Price. I discovered that Jon is well-known, highly-regarded and widely-recognized for the contribution he and the ARRL make to the international community.

10. RadioSport/Program Fees: Program activity continues a three-year decline. New DXCC applications are off 20% compared with last year. Contest log submissions are also in decline: DX off 6%; June VHF off 18%. Aggregate QSL shipments are off by 1/3; but average fees per transaction is holding steady between \$14-\$16. Total program and service fee revenue is off 20% from plan and an equal percentage compared with last year, which in turn was 20% lower than 2015.

To better understand this continuing trend, we are performing an extensive time series analysis of call signs to identify, uniquely, which and how many members participate in various programs; to identify new and lapsed participants; to analyze trends over time; and to examine which and how many programs (QSL, DXCC, Contests) have common participants. Analyzing the QSL bureau, we discovered that over the past three-years, the bureau was used by an average of 3,000 unique call signs, of which approximately 2,600 were actually ARRL members. Since this data has not been collected in the past, we are reconstructing it from paper records, requiring time to complete. Expected completion time, late fall.

Just as our most recent research reveals that new ham lapsed members find *QST* unsatisfying to their needs, it appears that our traditional programs are also satisfying fewer. To repeat an earlier comment, the continuing program fees trend is a matter of concern. We must shore-up our existing programs and services while at the same time develop new, more relevant member offerings. I look to guidance from the board and PSC to assist in critically evaluating what we have, and in creating what we need.

11. Social Media: Our electronic media activities continue to grow. We have 76,000 followers on Facebook at 6/30/17, which is an increase of about 1% per month. Almost half of ARRL's FB followers are in the core ARRL demographic—aged 45-64. ARRL FB is not merely for young hams; our core members are FB users and they follow us. FB is a key source of information about ARRL and the Amateur Radio community, just behind the distribution of the weekly ARRL letter. In the 35-44 age group, we have 16,000 followers. On a smaller scale, this is true of Twitter and Instagram.

In January, we launched Digital QST with a new vendor, PageSuite. They offer us more features at a lower cost to us with meaningful reductions in data downloading time, saving our smart-device users additional data charges. The digital edition has 29,000 users compared with 20,000 in January, 2017.

In May, we stepped up the pace of video production with live streaming of events from SEAPAC and Dayton, where we made 20 videos ranging from youth activities to interviews with leaders of the Maker community. “60-Second Century” has tripled its viewers on ARRL YouTube channel, and we continue to experiment with *100-second Tech Tips* instructional material. Joe Walsh joined us last month to record a series of video and audio ARRL promotional public service announcements. The Joel Hallas podcast reached 30,000 downloads last month, exceptional popularity among a limited interest program. June’s most popular ARRL video was “Carla, KC1HSX made her first contact on satellite” with 16,000 views.

Social media remains a critical feature of core membership engagement strategy.

12. Membership working group: In January 2017, a small group of staff (Steve Ford, Norm Fusaro, Deb Jahnke, Sean Kutzko, Diane Petrilli & Becky Schoenfeld) presented a summary of the 2015 Readex Market Study which outlined several of the challenges ARRL faces. As a follow-up to that presentation, the group will make recommendations to specifically address the challenges identified. The group will present to the board what they believe to be the top three priorities -- three small pieces of what needs to be a multi-pronged approach to major change. The full deck of slides will be available to Board members after their presentation.
13. Future GOTA events: The success of NPOTA confirms the conclusion that year-long GOTA events are very popular with the members. NPOTA and Centennial combined many attractive features like portable operation, geography, history and low-key competition. In designing another event, a team of staffers is attempting to design these features into a follow-on. May 2019 marks the Sesquicentennial of the Driving of the Golden Spike at Promontory Point, Utah linking the nation by rail. In view of the critical contribution of railroads to communications and commerce in the US—mail, telegraph, fiber optic right-of-way—we are exploring an event coinciding with that date. We note that many ham radio enthusiasts are also railroad enthusiasts. Our members ask

frequently about what's next after NPOTA? These efforts are only at the exploratory stage.

Much remains to be done in order to bring the 2015 Strategic Plan to its consummation. We make progress most days. I look forward to your guidance and continuing support in advancing the art, science and enjoyment of Amateur Radio.

Respectfully,

Tom Gallagher
Chief Executive

07/14/17

Appendix follows:

Appendices:



Evaluation of Education & Technology Program (ETP) following the departure of department manager: 5/17 TJG

Summary: Mrs. Johnson's resignation from ARRL prompted a thorough review of ETP activities conducted between 2007-2017 roughly coinciding with her tenure (with some lookback to 2002). Most of her activities were undocumented, therefore, we attempted to reconstruct them. She primarily supervised two programs: ARRL's participation in **ARISS** (Amateur Radio on the International Space Station); and **Teachers Institute** (TI), a series of three or more annual sessions designed to instruct elementary and high school teachers in electronics, wireless technology, and robotics with the expectation that these teachers would introduce Amateur Radio as a learning vehicle for their students in STEM education programs.

Over the past fifteen years both programs have remained basically unchanged, following similar patterns from year-to-year. During that period, ARRL expended approximately \$1,000,000 in support of ARISS consisting of in-kind services of ARRL staff in the person of Mrs. Johnson and others. Over the same period ARRL has expended approximately \$2,800,000 in funds to support TI and related equipment grants to schools.

We have attempted to assess the impact of these two programs, and unsuccessfully sought out the expected outcomes anticipated from the ARRL and student interaction.

ARISS conducts roughly 30 Space Station and US schools contacts (about 12 minutes between AOS and LOS) each year. Of these individual contacts, between one-third and one-half result from direct radio contact between the students and the ISS. The rest are arranged through a telebridge and a remote ground station with a standard desktop conference telephone set as the student-facing interface. We sought to assess the impact of ARISS support on *advancing the art, science and enjoyment of Amateur Radio* (ATASEAR)¹. We believe that Amateur Radio is a subordinate activity at most ARISS contact events, especially when telebridge is used.

[Question: if the ground station is not co-located with the contact event location, how do students make the connection between ARISS and Amateur Radio?]

Teachers Institute has instructed about 1,100 teachers over the past decade and one-half. Applications are solicited by ARRL nationwide and selected for

¹ ATASEAR is merely an acronym for "advancing the art, science and enjoyment of Amateur Radio," the overarching goal of ARRL's 2015 Strategic Plan and the standard by which all programs and activities should ultimately be judged.

participation in one of TI's three summer programs. ARRL pays all but \$100 of the cost including travel, lodging and meals during the five-day summer program. Participants may receive professional development credits for TI attendance, depending upon their employer.

While no historical data on the admissions process has been maintained, based on this year's applications, admission is not very selective. For 2017, we received barely enough applications to fill two classes of TI-1 and an insufficient number to fill TI-2. The latter was cancelled accordingly because 7 candidates is below critical mass for an effective class.

Over the past 15 years of TI's operations, we have expended nearly three million dollars funding TI sessions and associated equipment grants to schools. No data on the program's impact has ever been collected. However, based on a recent (2016) survey of TI-trained instructors, we estimate that approximately 2,700 students became licensed amateurs as an indirect consequence of TI sessions, and that through TI, we touched about 7,000 students. This equates to a cost of about \$1,000 per license or \$400 per touch over fifteen years. The reliability of the survey based on the recollection of participating TI graduates is uncertain.

Overall, these results appear on the surface disappointing, although there was no formal description of expectations at the time these programs were created. The single reliable fact uncovered in the analysis is the total cost for both—nearly \$4 million. The sheer magnitude of this number merits review going forward.

ARISS Program:

Following Johnson's departure, we held conference calls with ARISS leadership (Bauer and White) in response to their urgent telephone call following Johnson's resignation. This call prompted several successive telecons (including one with Dir. Woolweaver attending in his capacity on the Education Sub-Committee) during which Bauer and White attempted to outline which tasks ARRL through Johnson performed. Note that Dir. Woolweaver is familiar with the issues: he has worked with Johnson over the past months. (As background, the ARRL ARISS contribution consists of in-kind work performed by Johnson for ARISS's benefit. In prior conversations, she frequently advised me that she spent roughly half her time at ARRL working on ARISS.)

Bauer outlined a series of tasks which Johnson, and later with Kustosik, performed daily, weekly, monthly, etc. on behalf of ARISS. The major portion of this work could be characterized as high level clerical or administrative in nature, not managerial. Recalling the points of our first meeting at Dayton, I re-iterated for Bauer's benefit that using an expensive executive with a 30% fringe benefit package to perform clerical work was not a sustainable solution.

[Question: how did the cut in NASA funding to ARISS increase the work load on ARRL and diminish the value-added quality of that work?]

After some discussions among Barry, David Woolweaver and me, we decided to recommend replacing our contribution-in-kind with cash-donation-lieu-of-kind. This would avoid ARRL hiring a full-or-part-time employee to perform clerical functions and eliminate the annual and uncontrollable ARRL escalation cost (~ 3.0% salary plus 6% fringe). David will recommend to PSC this approach. Bauer believes that Johnson devoted 25% of her day to ARISS, so the recommend contribution would be \$25,000 per year, renewable annually. Notwithstanding the apparent minimal value of ARISS in contributing to ATASEAR goals, abruptly discontinuing our support would probably raise criticism from members. However, the cash-donation-lieu-of-kind would obviously lower the cost of equivalent support by at least the fringe expense, as well as improve our flexibility in re-evaluating the program in the future and modifying our support. From a negotiating standpoint, we can exert more influence on achieving our objectives for ARISS using funding as leverage. It would also represent a highly visible token of our support.

Time to implementation: next PSC meeting.

TI Program:

Teachers Institute has trained nearly 1,100 educators since inception in 2002. Again, there is very little data to evaluate the effectiveness of the program. In a survey commissioned late 2016 among its graduates we learned that approximately 2,700 students of TI-trained teachers have been licensed as radio amateurs but they could not be identified by call sign; and that approximately 7,000 students were in some way exposed to or touched by Amateur Radio by TI teachers as a platform to support STEM education. Again, here—while there were no specific quantifiable expectations initially—the relationship between the investment and the return seems disappointing.

From a program administration standpoint, the disappointments of TI cover a range of items—most importantly an explicit statement of goals, objectives and quantitative measures. Other missing features include:

- lack of post-graduate follow-up to monitor how lessons of TI were implemented in schools and classrooms;
- lack of post-graduate sharing of experiences and best practices among class mates to form a cohesive “alumni” body going forward;
- absence of a take-away curriculum (since remedied) for TI attendees to bring back to schools;
- lack of occupational and education model diversity among attendees (independent, charter as well as public, geographic and professional);
- a small applicant pool that limits the selectivity of the program.

From an instruction standpoint, excepting the lack of curriculum, the quality of instructors and instruction appears to be quite good. As an additional consideration in the future, the 5-day, expense-paid TI model has some attractive potential to training in other aspects of ETP. For instance, it might prove to be an

excellent method of training youth instructors. Or for training the trainers for ARES. The model itself is independent of the teaching content.

[Question: How many TI graduates and TI- trained school children are currently licensed and actively on the air?]

Funding for TI and the TI equipment grants is provided by donors to the ARRL ETP fund. Some thought should be given to briefing these donors in advance on any recommended changes that arise from this evaluation. We should think carefully about how we share the financial and the other metrics.

Overall, TI appears not to have moved the needle much for many years. Its overarching flaw is a lack of critical oversight during the past decade and one-half.

Education & Technology Program Going Forward:

The timing of Johnson's departure is fortunate in the sense that most of the preparatory work for 2017 TI has been completed, and only the execution of the program this summer remains to be done. Not a demanding task: mostly follow through along a familiar routine.

The larger issues surrounding TI and ETP remain:

- how to improve the impact of the program on the ATASEAR goal;
- evaluate whether, or not, the targeted group (in this case grade school children) is the most productive group to target;
- maintain the TI model for fewer traditional applicants but expand it for teaching other topics;
- shift emphasis away from traditional public schools to more receptive private and charter schools;
- improve the quality and diversity of the applicant pool;
- and lastly, utilize the resources of TI and the entire ETP to advance several new goals emerging from the work of the membership task force led by Diane Petrilli.

That committee has determined that the leading explanation for low on-the-air activity of new hams and a reluctance to remain a member or even to join ARRL occurs because new hams report to us that they lack, among other things, the technical sophistication to construct and operate a station and to engage meaningfully in the community. They do not see *QST* and by extension, ARRL, as a solution, and they report that clubs generally do not meet their requirements.

[Question: how can a lifelong learning program increase activity among new hams and create and retain more ARRL members?]

Combining the preliminary findings of the Petrilli task force—which suggests a need for life-long-learning programs—with the resources and the program requirements of ETP, there is clearly an overlap of responsibilities and critical interdependencies. The choice of replacement ETP leadership should take account of these factors.

Time to implementation: following the July board meeting presentation.

Interim Tasking for ETP—ARISS and TI:

We believe that we can temporarily manage the two existing programs in place currently through the efforts of existing resources.

The selection of candidates accepted to TI 2017 class was completed on 5/10 with the active participation and the concurrence of ETP, Membership, Finance, and the current instructor cadre. Slots for Dayton and Newington were assigned as of that date and letters are going out to both accepted and declined applicants.

Day-to-day coverage of ARISS tasks may experience some intermittent problems, but not dissimilar to those experienced several years ago when the situation was reversed and we were obliged to take up ARISS tasks following the loss of NASA funding.

For the near future, we expect that ETP will:

- transition to life-long-learning style coursework for new hams as well as established hams
- integrate more closely with new member and member retention strategies
- use the successful TI model to instruct in other relevant disciplines like ARES and youth instruction
- operate in a project management role as opposed to a content creation role
- be guided and measured by specific evaluative criteria
- Utilize multimedia (audio, video, audio-visual) to supplement printed media