



Society of Aircraft Performance and Operations Engineers

Welcome to the first SAPOE newsletter. We thank you for taking the time to read this. Please feel free to contribute ideas, or better yet articles, for future newsletters.

A Quarterly Newsletter

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The USAF Museum is a must for those who like their airplanes fast. Or unusual.

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President's Message

Roy Maxwell is the founding president of SAPOE and the principal performance engineer at Delta Airlines.

What Next, SAPOE?

Now that we have completed two successful technical conferences and enrolled a critical mass of members from our profession, a quite logical question is, "Where do we go from here?" My first priority for the Society has been, and will continue to be for some time, to make it **sustainable**. SAPOE has been a long time coming; we talked about it for years before we actually did anything to form it. But once we took some concrete action to organize it, the support from our profession has been overwhelmingly positive. Good governance demands that we channel that support and enthusiasm into a level of broad based member involvement which is sustainable for the long term. We do not want the organization to be dependent on a few individuals. So, what should we be doing

to enhance the organization and make it more useful to our members?

Many of us have been members of other engineering professional organizations, and have found them falling short of meeting the needs of our rather specialized profession. For me, the one that came closest was the Society of Allied Weight Engineers (SAWE), particularly when I had a lot of airline weight and balance responsibilities. So much of my thinking is influenced from what worked and what did not in that organization. Brian Chapman is also a long time SAWE member, and I first met him at a SAWE conference well over thirty years ago. So it should not be a surprise that the SAWE Constitution was the starting point for developing the SAPOE Constitution. Or that a technical conference was our first big effort for SAPOE, since the SAWE Annual Conference is the biggest activity of SAWE. But here is where the difference comes in. SAWE derives most of its income from the conference fees, currently \$645 for members. We feel our members can be better served by keeping costs low enough to encourage them to attend at their own expense if their employer will not pay for it. (Zero SAPOE conference fees are a good start at that!). We have also benefited from tagging on our conference to another industry meeting, IATA APTF

and the Boeing Performance Engineering Conference for the first two, and that has served us well. I am hopeful we will soon be strong enough to draw enough attendance to support an independent conference, but I don't think we are there yet, and many of our members have expressed support for being able to do two meetings in one trip. (Strange, isn't it, that people in or associated with the airline industry are not enthusiastic about traveling?)

Several members have suggested we need to have conferences in other parts of the world, to support our members there. I agree. My only concern is that we do not want to see a significant dip in attendance or enthusiasm for SAPOE during the critical early growth years. SAWE was formed as an international organization, but it was 30 years before they had their first conference outside the U.S. That was in London in the 1970's, and the lack of attendance almost did them in. Times have changed with regard to international travel, and we are not as dependent on our technical conferences as SAWE, but... For many years, APTF alternated meetings between Montreal and Geneva, but attendance at Geneva fell off so much that they started favoring Montreal, and then discovered more of their members prefer Miami. My thinking
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Vice President's Report

[Brian Chapman](#) is the founding vice-president of SAPOE and the lead performance engineer at United Air Lines. Brian will be drawing his distinguished career to a close this year as he moves on to a well-earned retirement.

As I write this, 2010 is drawing to a close. It has been a momentous year for me for two reasons: I worked with a group of dedicated people to draft a constitution for our organization and my service as an officer of SAPOE nears its end.

Carl Allen, Chad Gill and Tim Haney worked with me throughout much of 2010 to draft a constitution for SAPOE. We thought that we were done, but we got some great feedback and comments on the document at the conference in Seattle that showed that we are not quite there yet, but we are close. I will continue to chair the Constitution Committee after my term as Vice President expires on December 31. I will call my committee together in January, with the goal of incorporating the necessary changes in the constitution and get it adopted.

Performance and operations engineers occupy a unique niche within the airline industry and within engineering as a whole. About four years ago Mike Byham suggested to a number of us that it was time that we performance and operations engineers organize a professional society to address our specific needs and those of our colleagues. I happily volunteered to help get the organization off the ground. Now that we have recently completed our second annual conference I think that we can confidently say that we have succeeded. However, all good things must come to an end and with my retirement coming in the spring it is time for me to step aside and make way for new leadership in SAPOE. Paul Giesman was elected at the conference to replace me as Vice President of SAPOE. Paul is a great choice to help SAPOE grow and advance in the future. You are in good hands. It has been an honor and privilege to serve as one of the founding officers SAPOE and I know that SAPOE will thrive. I won't disappear and plan to stay in touch. I hope to see many of you again at future conferences.

On a personal note, Brian has been my friend and mentor for the past 20 years. He will be missed. - Ed.

Membership Report

[Walt Blake](#) is SAPOE's membership coordinator and a retired Boeing Flight Operations Engineer. Walt was Boeing's go-to guy for FLOE training but of course, you all knew that already.

If you attended the 2009 Conference in Miami, you heard me report that the membership, at that time, was at 78.

Then, if you attended the Conference last year in Bellevue you heard me report that the membership was at 110. The Conference also brought in more than ten attendees as new members, and more have joined since the Conference. As of the end of 2010, SAPOE's membership was at 132. That's a nice gain.

But we all need to look for opportunities to recruit new members. The more our membership grows, the better SAPOE will be able to serve its members and our profession.

If every SAPOE member recruits one new member per year, then (we're all engineers here, we love equations) the membership by the end of the year 20NN will be equal to 132 multiplied by two raised to the (NN-10) power, right? So by the end of 2011, we'll be at 264, by the end of 2012 we'll be at 528, then 1056 at the end of 2013. Exponential growth, and all that for just one new recruit per year per member.

So get out there and do a little gentle recruiting. Let's make SAPOE into the leader of our profession.

And remember: any questions or comments about the membership process, such as changes to your data in the roster, can be sent to me at the email address in the link above.

Best wishes for a great 2011.

Treasurer's Report

[Mike Byham](#) is the founding treasurer of SAPOE and the director of Operations Engineering at US Airways. Mike wishes to remind members to establish a V1 policy **before** getting into your car.

Thank you for your continual financial support to the Society. As of today, we are nearly \$4,000 in the black. We have been very conscious of how to most efficiently make use of our funds, so there are no mailings and no glossy brochures. All of the efforts that have gone into the creation and maintenance of the SAPOE infrastructure (website, membership lists, generation of this newsletter, etc) have been offered free-of-charge. Our officers, membership coordinator, website administrator and editor-in-chief are all unpaid volunteers. To date, our major expenditures have been for (1) filing for tax-exempt status with the United States Internal Revenue Service, (2) website space and domain name registration fees, (3) conference expenditures and (4) printing of logo shirts. Of these, the first two are unavoidable costs of doing business. We were able to get a very good rate for our website server space from GoDaddy.com and we were able to defer the costs of printing the logo shirts through sales (a bargain at \$10 a shirt)! As far as the conference fees are concerned, through the generous support of our corporate friends at MDA, PACE America and Boeing, we have been able to keep costs to an unbelievably low \$1,323 combined costs for two-day events in both 2009 and 2010. These costs include consideration of the value received by the participating members – including free breakfast bakeries, coffee and hosted social events for the registration fee of \$0!

Okay, so we have now demonstrated that we can responsibly run a member-supported organization spending little-to-nothing and keeping membership costs and costs to participate in our annual conference at a minimum. The question now becomes, what do we plan to do with the funds we are collecting and have been carrying-over from year to year? This is an excellent question and one that requires much thought. There are many possibilities including (1) mailings, (2) professional website enhancement, (3) advertisement, (4) establishment of a scholarship fund, (5) save it for a rainy day, or other ideas. One thing we'd like to avoid is completely funding the annual conference

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ABOUT SAPOE

President - [Roy Maxwell](#)

Vice President - [Paul Giesman](#)

Treasurer - [Mike Byham](#)

Secretary - [Ravin Agarwal](#)

Thank you for taking the time to read the first SAPOE newsletter. My personal hope is to publish quarterly. However, we will depend on you, the members, for content in future editions.

We welcome all submissions for technical and industry news. This is the forum that will be read by your counterparts worldwide. Has your regulatory authority imposed a novel (worthy or otherwise) requirement on your operation? Tell us how you resolved it. Have you been facing an unusual operational challenge? Lend your peers your insight into how you not only conquered the technical aspects, but also how you brought other stakeholders (management, labor groups, regulators, etc.) into concurrence with your solution.

We also welcome non-technical articles. Have you been traveled somewhere that the members might find appealing? Write a travel article for us and include photos! Is there an air show or other unique event occurring in your region? Give your fellow SAPOE members the inside information to make the most of a visit to your area. While aviation-centric destinations are obvious, feel free to expand the memberships' knowledge of where else we might exercise our pass travel privileges!

I hope to have a second edition for you by June, please send your ideas to me at the email below.

More information can always be found on our website, sapoe.org.

Respectfully,

Craig Nordstrom - Newsletter Editor

editor@sapoe.org

President's Message

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is we would be smarter to plan our first conference in Europe, Asia, South America, or Australia as an additional, regional conference instead of replacing the main annual conference. It is probably already too late to start planning such a conference for 2011, but not too early to start for 2012. I challenge everyone who is interested in hosting a conference, either regional or our main annual conference, to put a small team together and give us a proposal. If it could be tagged on to something that some of our members are planning to attend, so much the better!

What should we be doing besides a conference? **Communication** is the key word for me here. This newsletter is one attempt at increasing that. The SAPOE website is another. So far we have not found that compelling "killer app" that lures our members there every day, or even every week or month, but we're still trying. We have folks working on making it easier to poll our members on technical questions and organizing the growing library of specialized documents we are amassing. If you have anything you would like to share, or any ideas of how to make it better, please pass it on to me, one of the other officers, or our webmaster, Chad Gill.

I am also convinced we need better communication with other parts of the industry. I have attended a number of industry meetings where I am one of the few performance engineers attending, and think we can contribute a useful perspective in a number of areas. This includes the FAA Aeronautical Charting Forum where we have dealt with such things as airport obstacle charts, surveying standards, declared distances, and climb gradients on departure procedures. Another is the ATA CNS Task Force. CNS stands for Communications, Navigation, and Surveillance, and we all need to make sure our engine-out procedures keep up with these changing standards.

Most of us interact with the operators of airports from time to time, and this is another area where I think SAPOE can help improve communications. Both in the operational world of runway condition reporting for contaminated runways, and the longer term discussions of new runways, runway extensions, and obstacles. How frustrating it must be for airport operators to find the right people at the airlines operating there to discuss such things. And my experience is that often they don't even know the right questions to ask. While we deal with runway changes all the time, it is a relatively rare event for most airport operators. I think this is an excellent opportunity for SAPOE to provide a service to the industry of facilitating those contacts and developing a set of analysis and reporting standards to address the impact of runway length and obstruction changes.

Well, these are some of my thoughts, but I am really more interested in YOUR thoughts about how SAPOE can better serve you.

College Outreach

Carl Allen is SAPOE's outreach coordinator and the director of Flight Operations Engineering at Alaska Airlines. The photo below is not Carl.

One of the goals of SAPOE was to promote the profession of performance engineer, both from the airline perspective and the manufacturer perspective.



To meet that goal, a presentation about performance engineering is being developed for presentation, by SAPOE members, at universities or aviation related organizations. The presentation is intended to be expandable to meet the interests of the audience. In its

simplest form it only hits the high points of performance engineering. At various points, however,

opportunities are provided to move off on a tangent to explore topics more thoroughly. The initial draft of the presentation was presented at the second SAPOE conference.

There was excellent discussion and wonderful feedback was collected. The feedback will be used to improve the presentation and re-submitted to the membership as a second draft.

Treasurer's Report

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through general SAPOE funds. This just doesn't seem to be fair to the members who can't participate in the conference. So we will continue to try and keep the conference costs to a minimum and if the costs do get to be too high, we will consider a small registration fee from participants to offset the impact to the general SAPOE budget. We'd also like to avoid running out of funds, so you can be sure that whatever we decide to do with the money, it will be done in a conservative and financially responsible manner. It will also be done only with the consent of the membership. After all – this is your money.

Please don't hesitate to contact us if you have any questions. Thanks again for your participation in SAPOE.



Seriously, that flies?

Dayton, Ohio was home to Orville and Wilbur, but there is also an amazing array of more modern flying machines on display to the public in the United States Air Force Museum at Wright-Patterson AFB.

In the museum's R & D Gallery (above), the editor's ten-year old son Zachary stands in front of Tacit Blue, the first flying stealth airplane. Tacit Blue is an airplane once so secret that it didn't have the usual US military letter-number identifier. Above Tacit Blue is the sole surviving XB-70 Valkyrie, a six-engine, Mach 3 long range bomber designed in the late 1950's.

While we at SAPOE tend to be obsessed with operating safe, reliable and possibly even boring airplanes, some of the most exotic and bizarre aircraft yet declassified can be found amongst a trove of historically important airplanes following the evolution of military aviation. The USAF museum is organized into five main galleries following relevant military eras from World War I up to the present, including space, and features many well-known and widely displayed aircraft as well as several less-common types.

The real gem however, are the two remote, limited access galleries: the Research & Development and Presidential Galleries. After securing a seat on the bus (first come, first served) with identification (a drivers license or passport), visitors are bused to a

hangar complex on the opposite side of the airbase housing the two galleries. The Presidential Gallery allows walk throughs of former Presidential transports culminating in the VC-137, the military VIP variant of the 707 and the first airplane to be known as Air Force One.

In the adjacent hangar is the R & D Gallery. The experience is literally like stepping into the USAF's attic of one-of-a-kind prototype and experimental aircraft packed together so tightly that practically every step leads you to say "Wow! They have one of those too!" So tightly packed that photographing a single airplane is virtually impossible. So tightly packed that your editor's backside was bruised by an X-15 pitot tube while backing up to take a photo; trust me, Mach 6+ pitot tubes are very rigid. The entire museum is magnificent, but the R & D Gallery is simply jaw dropping.

If you go: nationalmuseum.af.mil

Museum entry is free and open to all everyday except Thanksgiving, Christmas, and New Years Day. The nearest major airport is Cincinnati (KCVG,



A YF-23 Advanced Tactical Fighter prototype resides in the Valkyrie's shadow.

90 minutes drive), while Dayton (KDAY, 30 min. drive) has regular commuter service.