

**Fusion Energy Division
Executive Committee Meeting Agenda
June 13, 2017, 6:00 to 8:00 pm EST (Pacific Daylight Time)
Hyatt Regency, San Francisco, CA
Board Room C**

In Attendance:

Arnold Lumsdaine (Chair, ORNL)
Keith Rule (Vice Chair, PPPL)
Susana Reyes (Immediate Past Chair, LBNL)
Blair Bromley (Outgoing ExComm, AECL)
Leigh Winfrey (ExComm, UoF)
Greg Staack (Incoming ExComm, SRNL)
Gregg Morgan (SRNL)
Jim Klein (SRNL)
Matt Jasica (University of Wisconsin)
Nermin Uckan (editor of FS&T, ORNL)
Patrick Moo
Miriam Rathburn
Arkady Serikov (Incoming ExComm, KIT)

On phone:

Kelsey Tresemer (Sec/Treas, SNL)
David Donovan (Incoming ExComm, University of Tennessee, Knoxville)

Item 1.0 Call to Order [Lumsdaine]

Participants asked to sign in, visitors were welcomed to the meeting. The Chair noted that we'd be jumping around in the schedule to allow people to make other meetings, but the minutes are organized by item, according to the agenda.

Item 2.0 Review of previous minutes [Tresemer]

Approved! (They were approved a while back via email)

Item 3.0 Treasurers' Report [Tresemer]

Summary of the FY17 Spring report given. Repeated here for record.

"This last year was very successful for the Fusion Energy Division. After two Class 1 sponsored conferences (revenue: \$11,792.59 for TOFE 2016 and \$3,505.87 for the Tritium Meeting), a slight uptick in division dues, and a successful launch of the new Dr. Kenneth R. Schultz Scholarship (for which we have allocated \$50k with ANS and will award a \$2500 scholarship each year), we closed 2016 with a balance of \$24,879.18. For 2017, the first quarter financial statement shows we are ahead of budget for membership dues (\$506 vs expected \$432). The only other allocated expense thus far is \$500 to support the 2017 Student Conference. Other budgeted expenses include \$500 to support the ANS NEED program and a residual \$300 in Student Support. Finally, there was an additional \$70 spent on miscellaneous FED needs this quarter."

Status of the treasury is very healthy. The Tritium and TOFE conferences were successful and have given us a positive balance in our account. The Schultz Scholarship is all set up and running. These statements led to a discussion about what the Executive Committee would now like to turn attention as to where we would like to spend this money. This will be a recurring subject for debate at future ExComm meetings.

Item 4.0 Conferences

4.1 TOFE 2018 [Winfrey]

Conference approval received last Sunday. Embedded conference gives us a little more leeway in terms of deadlines. Leigh is actively working with ANS on those details. Technical committee is on track. Keith Rule, Arnie Lumsdaine, John Gilligan, and Leigh Winfrey met today to begin to assemble technical committee and plenary speakers. They are ahead of the curve!

4.2 M&C 2017 [Lumsdaine]

Conference was in South Korea, on Jeju Island, April 16-20th, 2017. There was light participation from the fusion community with only 12 papers.

4.3 ICENES 2017 [Lumsdaine]

This was a class 4 sponsorship with the FED. It took place in Hefei, China on April 24-27th, 2017. It had some fusion content and we got a nice letter in thanks for our sponsorship.

4.4 Updates on Special Sessions at National Meetings [Lumsdaine]

FED is becoming more active at national meetings. Arkady Serikov organized two sessions on neutronics at the ANS summer meeting and we have a third session at this meeting. Thanks to Blair Bromley & Lance Snead for organizing the several sessions at the upcoming ANS Winter meeting. There are seven sessions on the schedule at this time. One particular field which is attracting attention is research opportunities in advanced fusion materials. Lumsdaine & Uckan think it might be good to tie some sessions in TOFE 18 to these areas of research which overlap with the ANS Grand Challenges.

4.5 Tritium2019 [Uckan]

Tentative dates set for April 22-26, 2019. Since it is hosted by South Korea in Busan, it could be a Class 4 sponsorship by the FED. There might be reciprocity of conference rates for professional societies. This conference is not expected to be in conflict with any other conferences. Nermin brought up a point about these papers might be lost, unless they publish with ANS. Korea might go with a Korean journal, like NED (Nuclear Engineering Design), but if ANS is a sponsor, they have the first right of refusal to publish these papers.

Break - Question by Reyes, who is the current IEEE liaison? – Paul Humrickhouse? As a division, we need a little more clarity on this relationship. Lumsdaine to follow up with on this matter.

5.0: Student-Related Items

5.1 Report on the 2017 Student Conference, University of Pittsburg [Rathbun]

Thanks given for the \$500 in support. Best paper in FED Isaac Mayer. Conference was pretty well attended with ~400 students and 75 professionals. Robert Goldston gave a talk, though not on fusion energy. Next chair introduced, Patrick Moo.

5.2: Report on the 2018 Student Conference, University of Florida [Moo]

Theme this year is nuclear quality in policy, energy access, and in the engineering community. Each topic is to be highlighted in panels, keynote, and talks. The conference workshops are close to being confirmed. Moose {sp?} workshop and High Performance Computing are workshop highlights, but there will be others on the three themes. Tours will be to Kingsbay naval base, Kennedy space center, and on-campus tours to the UoF training reactor. They are asking for sponsorship and encouraging professionals to be involved in the process, particularly to supply suggestions for good additions. Arnie suggested a panel on the future of fusion.

FED needs to decide on support for student conference. Historically, it has been \$500 but has gone up to \$1000, depending on the conference. Is it fair to only choose one that gets \$500? That amount gets you 100% travel for a single student and has been greatly appreciated. We could do \$500 for the conference, and then \$250 for the best paper in fusion? Graduate and undergrad? Meeting participants agreed that awards for papers would encourage fusion participation. Undergrads appreciate the money more, as grads usually have conference funding. There are fewer undergrads doing fusion work, so the pool is more limited than with graduate students. Motion to give \$500 for normal student conference support, \$500 for student for best paper (\$250 for discretionary spending, \$250 to help bring student to Winter Meeting) and if they cannot go to Winter Meeting, they can attend the following National Meeting. Vote taken, motion passed and this will increase this contribution for all future student conferences.

5.3 Update on the Ken Schultz Scholarship [Winfrey]

Ken Schultz scholarship update – everything is running smoothly! There were 6 or 7 applicants this year and the winner Alexander Rice of UoF (sp?). ANS runs everything now and all we need to do is keep supplying reviewers. Simple!

5.4 Student Program News [Lumsdaine]

This program supports students attending the two ANS National Meetings. \$300 has been dispensed already and Arnie proposed upping that to \$500. Some larger divisions give much more than this. Purpose of this fund is to support young member involvement in ANS and to foster long-term relationships between students and ANS. Keith Rule presented some statistics on how well this fund works and there is strong supporting evidence that this is an excellent way to reach students and bring them in as long-term members of the community. Motion to up contribution to \$1000, effective immediately. Vote taken, motion passed. Action for Tresemer: dispense an additional \$700 to ANS student support. Arnie would like to see a student member come talk to the FED committee about the benefits of these funds, where they go, how they are used, and will send an email asking for this involvement.

5.5 Young Members Congress [Lumsdaine & Rule]

This event takes place 10/28/2018, in Washington DC [FED agreed to give \$400 FY18], looking for division members to be there from 11:30 – 1:30 (a luncheon). Particularly looking for young members to show up so that outreach efforts have some early career people to identify with. A few members of the ExComm can attend and will try to bring some young members with them. No motion to increase FED funding, though Arnie agreed to inquire about if there is any need.

5.6 YMG Report [Jasica]

Main upcoming event is the Young Member's Congress. Also working on getting an official ANS Livestream on the YMG webpage. Anyone could use the livestream, but would need to apply via YMG. They are looking for interesting things to stream! There will be a webinar about what divisions do, especially the FED. Matt is working with Blair on who to source for this webinar from each division. He will schedule this late Sept/early Oct

6.0 Elections Report (Reyes)

Congratulations to the new ExComm members: David Donovan, Greg Staack, Arkady Serikov. Farewell to the exiting members, Blair Bromley, Neill Taylor, and Craig Taylor. Thank you for your service, and please keep in touch with the FED! To the ExComm and other FED members, please keep in mind nominees for future ExComm positions. We would especially like greater participation from our foreign partners in fusion energy.

7.0 Publications

7.1 Newsletter [Lumsdaine]

Laila was not present but Lumsdaine reported that she is on track with the newsletter.

7.2 FS&T Journal [Uckan]

Reports are done from April 1st – May 30th, significant reduction in submissions probably due to Nermin announcing stepping down. FS&T subsequently will fall under the publication management of Taylor Francis for ANS.

There has been an increase in rejection rate across all three journals and is attributed to a rising number of PhD students who require a minimum of publications to graduate. This is placing a greater reviewing burden on peer-reviewed papers like FS&T.

Tritium 2016 papers are published (~80 papers) and TOFE 2016 papers are all finished. Due to the rising interest, Nermin asked after if there was interest in publishing a special Neutronics edition/section of FS&T. There was significant discussion on this.

For 2018, Nermin secured a special issue of FS&T for Target Fabrication 2017, as well as Data Processing Validation, per IAEA approval.

Award presented to Nermin for her years of exceptional service to ANS, the FED, and FS&T. We thank her for her tireless service and incredible dedication to this publication, this division, and the field of nuclear fusion energy. The technical journals committee has been searching for a new editor – technical journal committee interviewed three candidates on Monday, but no decision yet – and we know we will be hard-pressed to find someone who can fill her shoes.

8.0 Honors and Awards [Uckan]

FED Outstanding Achievement award & Technical Accomplishment 2018, Presented at TOFE , award submissions are already coming in and we need to make it clear with an announcement via ANS that these are every TWO years. Nermin agrees to follow up on this announcement, probably in the November newsletter.

Immediate approval needed for the Teller Award. Arnie emailed out an announcement with the two recipients with this meeting's information. The awardees are Paul Drake & Vladimir Tikhonchuk. Vote was taken to concur with award nomination and the motion passed.

New awards item: [Lumsdaine] FED-sponsored Lifetime and Technical Accomplishment awards.

Currently, we give 500 for each award, seems a little chintzy. IEEE gives \$3000 (Whoa). Arnie suggests

upping our award amount to at least \$1000, especially for FED Outstanding Achievement award. Discussion on how to break down the amounts. A non-monetary award? Such as a medal? To wear with regalia? Susanne suggested asking the FED members if they would prefer cash or medals? Not ready to vote, will vote at the November ExComm Meeting.

9.0 Tactical and Succession Plan [Rule]

Present FED plans expire in 2017, but we met all of our goals in the tactical plan AND our long-term goals in the strategic plan from 2013-2017. Keith marked up the plans but is trying to come up with something new to add. New draft will come out in Nov 2018. Some suggestions generated from this meeting: greater international presence, reach out to IEEE and other US societies to develop those relationships (in the past, ANS has been nervous about IEEE taking over TOFE, so there needs to be a definite line of separation), FESAC might be a good line to pursue, Susana is now a voting member and there are a few more FED representatives who are also members. Both grassroots and higher levels of outreach were suggested. Andy Klein (liaison to the ANS board) might be a good place to start to engage leadership at APS and IEEE to help develop a relationship.

10.0 Subcommittees

10.1 Program [Lumsdaine]

Pretty much covered by commentary from other conversations.

10.2 Website [Tresemer]

Not many changes, but the Grand Challenge information have been uploaded on the site. Keith Rule has some suggestions for the website and will follow up. Matt Jasick may be available for contribution to the website in the future.

11.0 New Business

11.1 Grand Challenges [Lumsdaine]

There are 9 ANS Grand Challenges, three which are fusion related: 1) Accelerate development of advanced materials, 2) Accelerate utilization of simulation & experimentation, 3) Expedite licensing and deployment of advanced reactor designs. Perhaps at TOFE we can have a session on each these and our other challenges, perhaps on tritium breeding or the successful creation of a burning plasma.

11.2 OFES [Reyes]

The Office has asked the national academies of science, engineering, and medicine to evaluate the future of magnetic fusion – 1) status of US magnetic fusion and how relevant a burning plasma is to the future of fusion and 2) priorities in fusion under two scenarios: whether or not we should stay involved with ITER. There is a workshop in Madison in July where people can present thoughts on these topics. Reyes encourages the technical communities to voice their opinions so as not to allow the plasma physicists to dominate the discussion. Reyes believes that this report will be considered as significant input and we, as a community, been encouraged to be bold, as the available funding for fusion energy is going down. Another avenue for bringing up technologies for fusion energy is FESAC's Transformative Enabling Capability Committee – will write a white paper to FESAC on transformative technologies for Fusion.