Minutes of the June 2015 ANS Fusion Energy Division Executive Committee Meeting June 7, 2015, 3:00 to 5:00 pm CDT (Central Daylight Time)

Grand Hyatt San Antonio, Presidio C, San Antonio, TX

DETAILED MEETING MINUTES: (see Attachment 1 for Agenda)

In attendance:

Susana Reyes (LLNL) - Chair Arnie Lumsdaine (ORNL) - Vice Chair Paul Humrickhouse (INL) - Secretary/Treasurer Blair Bromley (CNL) – Executive committee member Keith Rule (PPPL) - TOFE 2016 Chair and FED Executive Committee member elect Ahmad Ibrahim (ORNL) - YMG Liaison/New member chair and FED ExCo member elect Nermin Uckan (ORNL) – Editor Fusion Science and Technology Journal/Awards Chair Robert Addis (SRNL) – Tritium 2016 Chair Jim Klein (SRNL) – Tritium 2016 Technical Program Chair Sarah Camba (TAMU) - 2015 ANS Student Conference co-chair Timothy Crook (TAMU) - 2015 ANS Student Conference co-chair Matthew Jasica (UW) - 2016 ANS Student Conference General co-chair Kalin Kiesling (UW) – 2016 ANS Student Conference General co-chair AJ Gross (UW) – 2016 ANS Student Conference General co-chair Andy Klein (OR St.) - ANS Board Liaison Craig Williamson – ANS Scholarship Committee Chair Leigh Winfrey (U. FL) Shanna Bobbins (UIUC)

Phone:

Kelsey Tresemer (PPPL) – Executive committee member Neill Taylor (CCFE) – Executive committee member Takeo Muroga (NIFS) – Executive committee member elect Minami Yoda (GIT) – Past Chair

Item #1: Call to order (Reyes)

Chair Susana Reyes called the meeting to order, welcomed all attending live and by phone, and began the meeting with a series of introductions of those attending in person and by phone.

Item #2 – Discussion of November Meeting Minutes (Humrickhouse)

Copies of the minutes from the November executive committee meeting (November 9, 2014) in Anaheim, CA were distributed. These were previously approved unanimously by an email vote of this committee and subsequently transmitted to Valerie Vasilievas at ANS headquarters on December 8, 2014. They have been archived with headquarters and may be retrieved from the division website at (<u>http://fed.ans.org/minutes.shtml</u>). Susana noted that there is a file archive system we can access to store this and other documents, but that

there seem to be some technical difficulties and she is presently unable to access it; a new software system is soon to be in place, and we will try again after this is finished.

Item #3 – Treasurer's Report (Humrickhouse)

Current Status of 2015 budget

As of March 31, 2015 (the end of the first quarter), our division had a balance of \$60,395, up from \$57,974 at the time of the November 2014 ANS meeting (and embedded TOFE). Significant expenditures during that time include awards for Technical Accomplishment and Outstanding Achievement (and associated plaques), totaling \$1,196, given at that meeting as well as student travel and best paper awards totaling \$3,250. These, however, were more than offset by a meeting excess of \$9,140, more than twice what we had budgeted based on our expectations for an embedded meeting. This figure included \$1,500 for the main ANS meeting, and \$7,640 for the TOFE. The \$1,500 is a result of our sponsorship of sessions in the main ANS meeting (i.e. outside of the TOFE); said sponsorship also doubles what we receive for the TOFE from ~\$35 per published paper to ~\$70. It is clear that sponsorship of these sessions has a significant financial benefit to our division.

In CY2015, we have made our usual \$500 contribution to the ANS student conference, and \$300 for student travel to national meetings. We have received \$432 (1/4) of our 2015 member dues which is in line with our expectation, indicating a stable membership.

It should be noted that our current balance (\$60,395) has now exceeded our target threshold (\$60,000) to fund a \$3,000 annual scholarship. Since these funds are entirely separate from division operating funds (and cannot be used for any other purpose than the scholarship), Paul Humrickhouse recommended that we wait until after receipt of funds from the next meeting to establish it, in order to allow for sufficient remaining division operating funds to continue to carry out normal business.

3.1 FED Scholarship Status

A discussion of scholarship logistics ensued. Susana noted that we can establish a \$40,000 fund in order to award a \$2,000 undergraduate scholarship, in which case we can proceed immediately. Susana thought that proposals needed to be submitted in June, but Craig Williamson, ANS scholarship committee chair, indicated that this process could be initiated at any time. Susana distributed a scholarship proposal draft.

Susana also noted that the FED had been approached by HQ about the Michael J. Lineberry Scholarship, which had been established after his passing in 2014 but was presently not fully funded. However, as the focus of Dr. Lineberry's research (and presumably the scholarship) was not fusion-related, the committee thought this fund was not a good fit for a merger with our own.

Craig was encouraged by our readiness and preparedness for establishment of our own scholarship, and encouraged us to proceed with all speed.

Blair Bromley noted that a small donation to the Lineberry scholarship fund might be warranted; several other divisions are contributing \sim \$11,000 to the fund. It was decided that the present status of our accounts demanded that we focus on our own scholarship first.

Some discussion followed regarding the amount of the scholarship. To establish such a scholarship, the desired funds are placed in a separate investment account, the interest from which is used to fund the scholarship in perpetuity (assuming 5% annual return). The actual return (or loss) may vary, and scholarship fund balances are re-evaluated every three years. Susana suggested we begin with \$40,000 fund to award a \$2,000 undergraduate scholarship. We can subsequently add \$20,000 and increase the amount of the award to \$3,000 based on the new total balance of \$60,000.

Nermin Uckan noted that we had not yet worked out the details of the scholarship, including who it is to be awarded to (undergraduate or graduate), in what years, and for how long, and that it might be awkward to change from awarding undergraduate to graduate scholarships once our balance increases. Rob Addis asked what the purpose of the scholarship was; some discussion followed, and it was generally agreed that it should be to attract members and attract students to fusion.

Craig provided some history on scholarships in DOE. An earlier program had been established from 1954-1972, but there were none for a period of time, until 1980. At that time, a magnetic fusion energy technology fellowship was established. This program attracted a large number of students and served as a model for many other programs. Our scholarship program is much smaller than these awards, but it can still serve to gain recognition for the division, award recipients, and their institutions.

Leigh Winfrey has been involved in scholarship programs before, and noted that an award of the magnitude we are considering (which included a small research requirement) really spurred students on to subsequent graduate study. Keith Rule noted that undergraduate research is growing substantially, a point Rob concurred with.

Susana took nominations for chair (and members) of the FED scholarship committee to further address the details discussed. Leigh volunteered to chair the committee; Susana and Ahmad Ibrahim volunteered to be members. A motion in support of these candidates was put forward, seconded, and unanimously approved by the committee.

Craig further noted that the name of the scholarship is important (and the namesake need not be deceased) and suggested that the individual be someone who was active in ANS. This will be taken up by the scholarship committee. Susana will attend the scholarship committee meeting later this week.

Item #5 – Student-related Items

Since our student representatives were present, we skipped to item #5 at this time.

5.1 – Report on 2015 Student Conference (Texas A&M)

Sarah Camba and Timothy Crook from Texas A&M were present to report on the 2015 ANS Student Conference, which was held on April 9-11. The meeting attracted 527 attendees (417 students and 110 professionals), and was organized so as to facilitate interaction between the students and professionals at lunches and dinners. The technical program included 125 papers, 35 posters, and a dedicated fusion session; Jonathan Coburn from NC State was the award winner for this session. The students thanked the committee for their support.

5.2 – Update on 2016 Student Conference (UW-Madison)

Matthew Jasica, Kalin Kiesling, and AJ Gross from the University of Wisconsin were present to report on planning of the 2016 student conference and ask for our support. The theme of the conference is "Being a critical member of the nuclear industry", and in a play on the four-factor formula, emphasizes: (η) nuclear opportunities, (f) forming our public image, (p) professional development, and (ϵ) entrepreneurship. A new feature will be an "innovation competition", modeled after innovation days at UW-Madison; students will have an opportunity to submit an innovative idea prior to the conference, and an award will be given based on judging by a committee of professionals and entrepreneurs.

Susana noted our desire to increase the numbers of fusion papers at the student conferences (there were ~ 10 at the 2015 conference). Kalin was optimistic that this would grow, due to the large number of fusion students at UW-Madison. Tim Crook noted that allocating our donation specifically for an award in the fusion session (and publicizing this) might also increase fusion-related submissions. Kalin noted that amongst the "nuclear opportunities" planned was a panel on fusion and plasmas. Ahmad noted that publicizing the planned fusion facility tours might also help boost attendance.

Item #7 – FED Publications

7.2 Fusion Science and Technology journal (Uckan)

Nermin gave an update on the Fusion Science and Technology (FS&T) journal and upcoming conference proceedings and journal special issues. The FST full journal report and statistics are given in attachment 3.

7.1 Newsletter (El-Guebaly)

Laila El-Guebaly was unable to attend the meeting, but Susana reported that the next newsletter is nearing completion and will be out by June 15. The newsletters appear online at (<u>http://fti.neep.wisc.edu/fednews</u>).

Item #8 – Honors & Awards Committee update (Uckan)

There was nothing new to report from the honors and awards committee as we are not giving any awards this year, but Nermin noted that we do have one new fellow, Yutai Katoh. The next awards given by the FED will be at the 2016 TOFE. The upcoming

Teller award recipient (awarded by IFSA) has been approved by the FED via email vote, and will receive the award at the upcoming IFSA conference in Seattle.

Regarding the Teller award, Paul noted that while the FED does not bestow this award, we do manage the fund that pays for it, the present balance of which is \$69,159. These funds can only be used for the Teller award. We do not contribute any of our division operating funds to this award; we receive a contribution from the IFSA conference and disburse funds to award recipients in roughly equal amounts. Because it continues to receive contributions from IFSA as well as interest, it appears that this fund balance will continue to grow. Nermin confirmed that the FED does not have control over how these funds are allocated; Leigh suggested we offer some suggestions to IFSA on possible other uses (e.g. scholarships) for these funds if the balance does indeed continue to grow. Susana will contact Teller Award Committee chair Bob Kauffman about the current state of this fund.

Paul noted that funds such as this one for the Teller award, and the one we're setting up for our FED scholarship, might also be used to fund our division awards, which have always been paid for directly out of our operating funds. This would allow us to grow the amount of the awards (which, it was noted in past meetings, are quite small) via the use of an interest-bearing account. Arnie Lumsdaine noted that we might pursue some corporate sponsorships to help establish such a fund. This is a longer-term issue as we are presently focused on establishing our scholarship fund, but the committee may take it up at a later date.

Item #4 – Conferences

<u>4.1 – Report on 21st TOFE (Reyes)</u>

The 21st TOFE was held at the Disneyland hotel in Anaheim, CA last November. Some logistic conflicts (e.g. regarding our meeting rooms) and miscommunications (due in part to changes in personnel at HQ) with ANS HQ were noted. There were approximately 200 attendees and 166 papers submitted in conjunction with the meeting. It is difficult to get an exact count for embedded TOFEs since it is not known which registrants are attending TOFE vs. the main ANS meeting; Nermin noted that this is usually estimated based on the number of TOFE abstract books requested by registrants, but that this is not exact.

Steve Combs and Larry Baylor received awards for Technical Accomplishment, and Brad Merrill for Outstanding Achievement, at the meeting.

Brian Wirth was general chair of the meeting. Andy Klein noted that Brian was frustrated with some of the aforementioned issues at the meeting, and requested a follow-up on this, e.g. in the form of a "lessons-learned". Arnie will remind Brian to follow up on this.

4.2 - Report on M&C 2015 (Ibrahim)

FED co-sponsored (class IV) the 2015 M&C meeting. Ahmad noted that 120 papers were planned for in the budget, but 360 were received, and the meeting made a very healthy \$70,000. There was a fusion session which featured seven papers, although Ahmad noted that the focus was rather narrow, as six of these dealt with neutronics. The next M&C

meeting in Jeju, Korea in 2017 will also include a fusion session, so this appears to be an established part of the meeting, though Ahmad noted that attracting papers to this meeting was difficult since people working in this area are already focused on attending other conferences. He is going to reach out to the organizers of the 2017 meeting regarding a class IV sponsorship.

4.3 - Report on ICENES 2015 (Reyes)

The 2015 ICENES (of which we are class IV sponsors) was to be held in May 2015 in Anatolia, Turkey; but at the last minute this was postponed to October and moved to Istanbul. Susana was to attend and this created significant problems for her and others who had already made travel arrangements. The exact reason for this is not known, but there was speculation that it was motivated by security concerns due to the proximity of the Syrian border, or low attendance resulting from a perception thereof.

4.4 – Report on IFSA 2015 (Reyes)

We are also class IV sponsors of this meeting, as confirmed by an email vote of the committee in April.

$4.5 - \text{Update on } 22^{\text{nd}} \text{ TOFE (Rule)}$

Preliminary approval for publications has now been received from the Meeting Publications Technical Committee; final approval will be pursued in November 2015. The preliminary budget was presented to the National Program Committee on Sunday morning. HQ has some concerns regarding the revenue forecast by PPPL, which is based on 225 attendees, a larger number than the last two TOFEs (166 papers in Anaheim in 2014; 190-200 attendees in Nashville in 2012). Keith thought these numbers were realistic considering the attractive and easy to reach location of the meeting (Philadelphia), but further discussion with HQ will occur on this subject this week. Arnie noted that new government travel restrictions were issued just prior to the Nashville meeting and probably suppressed attendance. It was noted that both the proximity of the SOFT (two weeks later) and the timing of the meeting (August) might discourage European participation, but such difficulties in choosing a meeting date are inevitable.

<u>4.6 – Update on TRITIUM 2016 (Addis)</u>

Rob Addis and Jim Klein gave an update on status of TRITIUM-2016 (11th International Conference on Tritium Science and Technology), to be hosted by Savannah River National Laboratory (SRNL) in Charleston and held on April 17–22, 2016. Rob and Jim recently visited ANS HQ in Chicago to iron out a number of issues related to management of the website (now functional) and other issues. A call for papers has been released to lists of past attendees and others identified by Jim through contacts at other labs. Journal papers will be published in FS&T; Rob and Jim also wanted a full abstract booklet to be distributed at the meeting which caused some confusion with HQ which has now been resolved. The abstract book and program will be one document, and ANS will handle formatting and printing. Nermin suggested an electronic program (sans abstracts) be available on the website as well.

Rob noted that the original budget had assumed a \$1000 registration fee. ANS suggested this be lowered at least slightly (i.e. to a three digit number) if possible, but Savannah River Nuclear Solutions recently agreed to donate \$20,000 to the conference, and as a result a \$900 registration is now anticipated. A lower rate for student registration is under a consideration to boost student attendance; this has not been done in this conference series in the past.

Final approval for the meeting will be sought at the ANS meeting in Washington, D.C. in November.

The need to streamline the paper review process was noted; Rob and Jim are reaching out to numerous entities beyond ANS to assist in this process, including the Canadian and Japanese nuclear societies, who are co-sponsors. A uniform "member" registration rate will be extended to these co-sponsoring societies as well as ANS members.

A question was asked about such co-sponsorships for the 22^{nd} TOFE; Keith indicated that we are not yet at that stage of preparation for this meeting.

<u>4.7 – Update on other Co-sponsored Sessions (Reyes)</u>

FED is co-sponsoring two sessions at the current ANS meeting: one general session on fusion, and another on student projects. Blair indicates that the student projects session will be pursued at the next summer meeting as well.

Blair additionally noted that we sponsored a session on subcritical driven systems at the November meeting, but he was considering moving this to the summer meeting which is typically less crowded.

Item #6 – Report on Ex-Comm Candidates (Yoda)

Minami Yoda was unable to attend, but Susana noted that our newly-elected Executive Committee members (whose terms begin at the end of this meeting) are:

Keith Rule (PPPL) Ahmad Ibrahim (ORNL) Takeo Muroga (NIFS)

Item #9 – Compliance with other ANS Division Metrics

ANS measures division vitality in a number of ways (e.g. membership, sponsored sessions, etc.), and typically presents these in a colored matrix in which green, yellow, and red have their usual meanings. FED is generally very healthy, though Susanna noted that there are a couple outstanding "yellow" items; the first of these is that the graphics on our website are non-compliant. Webmaster Mark Tillack took these directly from ANS templates for this purpose, but it seems they have since been revised, so this will need to be addressed.

<u>9.1 – Update on Public Policy Statement (Reyes)</u>

The second "yellow" item was our lack of a public policy statement, despite that fact that we have been working towards this for some time now. There continue to be disagreements between the FED ExCo and the ANS Public Policy Committee (PPC) about the content of this statement. Other divisions are experiencing similar issues with the PPC; a committee has been formed by Hans Gougar (chair of the ANS Professional Divisions Committee), to address these issues; Susanna is a member of this committee. Arnie notes that ANS currently has a smaller role in communicating with DOE OFES than APS, a point we need to work on.

Susanna has distributed another iteration of the public policy statement for comment.

9.3 – Involvement of New Members (Tresemer)

Kelsey Tresemer is working with Mark Tillack to revise the webpage so as to attract new members; she has distributed a draft "orienting page" and requested a few points of contact to list on the page who can field questions about membership and involvement in the division. She is also working with Charlie Gentile to set up and arrange sponsors for a Young Members Group session at the next TOFE. Susana asked a question about the impact on income if additional sponsors are added. This, however, will be a class IV sponsorship so there will be no impact.

Item #10 – New Business (all)

Chair Susana Reyes will be on leave from mid-July until December; Vice-Chair Arnie Lumsdaine will assume the role of acting chair in her stead.

Blair Bromley, who is also the chair of the Fusion Science and Technology Division of the Canadian Nuclear Society (CNS-FSTD), shared information about the upcoming Canadian Workshop on Fusion Energy Science and Technology (CWFEST-2015), which is being tentatively scheduled as a one-day workshop on October 18, 2015, in Ottawa, Canada. CWFEST-2015 will be embedded in the CNS-sponsored 7th International Conference on Modelling and Simulation in Nuclear Science and Engineering (ICMSNSE-2015). More information can be found at http://cns2015simulation.org/. As the workshop organizer, Blair (Blair.Bromley@cnl.ca) is looking to recruit speakers from the international community who could give presentations a CWFEST-2015. This workshop will be a good opportunity to exchange information, network, and promote fusion S&T.

Item #11 – Close meeting (Reyes)

The meeting was adjourned shortly after 5pm CDT.

Attachment 1

Fusion Energy Division Executive Committee Meeting Agenda

June 7th, 2015, 3:00 to 5:00 pm CDT (Central Daylight Time) Grand Hyatt, San Antonio, TX, Presidio C

- 1. Call to Order (Reyes)
 - 1.1 Welcome and Roll Call
 - 1.2 New Members Introduction
- 2. Discussion of Winter Meeting Minutes (Humrickhouse)
- Treasurer's Report (Humrickhouse) 3.1 FED Scholarship Status
- 4. Conferences
 - 4.1 Report on 21st TOFE (Reyes)
 - 4.2 Report on M&C 2015 (Ibrahim)
 - 4.3 Update on ICENES 2015 (Reyes)
 - 4.4 Update on IFSA 2015 (Reyes)
 - 4.5 Update on 22nd TOFE (Reyes/Rule)
 - 4.6 Update on TRITIUM 2016 (Addis)
 - 4.7 Update on other Co-sponsored Sessions (Reyes)
- 5. Student-related Items
 - 5.1 Report on 2015 Student Conference (Texas A&M)
 - 5.2 Update on 2016 Student Conference (UW-Madison)
- 6. Report on Elections (Yoda)
- 7. FED Publications
 - 7.1 Newsletter (El-Guebaly)
 - 7.2 Fusion Science and Technology Journal (Uckan)
- 8. Honors & Awards Committee Update (Uckan)
- 9. Compliance with ANS Division Metrics
 - 9.1 Update on Public Policy Statement (Reyes)
 - 9.2 Compliance with ANS 12-Point Initiative (Reyes)
 - 9.3 Involvement of New Members (Tresemer)
- 10. New Business
 - 10.1 FED Presentation to Board of Directors (Reyes)
 - 10.2 FED Leadership Update (Reyes)
 - 10.3 Others (all)
- 11. Close meeting (Reyes)

Attachment 2

List of Officers and Executive Committee Members

FED Officers:

Susana Reyes (LLNL)	Chair (14-16)
Arnold Lumsdaine (ORNL)	Vice Chair/Chair-elect (14-16)
Paul Humrickhouse (INL)	Secretary/Treasurer (14-16)
Executive Committee:	
Satoshi Konishi (U.Kyoto)	(12-15)
Jacob Leachman (WSU)	(12-15)
Juergen Rapp (ORNL)	(12-15)
Kelsey Tresemer (PPPL)	(13-16)
Jean Paul Allain (UIUC)	(13-16)
Kevin Kramer (Terrapower)	(13-16)
Blair Bromley (CNL)	(14-17)
Craig Taylor (LANL)	(14-17)
Neill Taylor (CCFE)	(14-17)
Keith Rule (PPPL)	(15-18)
Ahmad Ibrahim (ORNL)	(15-18)
Takeo Muroga (NIFS)	(15-18)
,	
Past Chair	

Minami Yoda (GIT)	(14-16)

FED Standing Committee Chairs:

Nominating: Minami Yoda (GIT) - Chair Honors and Awards: Nermin Uckan (ORNL) - Chair Program Committee: Arnold Lumsdaine (ORNL) - Chair

FED Representatives on National Committees:

ANS Publications: Nermin Uckan (ORNL) ANS Public Policy: Susana Reyes (LLNL) ANS Program Committee: Susana Reyes (LLNL)

Editors:

Newsletter: Laila El-Guebaly (UW) Fusion Science and Technology Journal: Nermin Uckan (ORNL)

Liaisons to other organizations and ANS divisions:

ANS Board: Andrew Klein (OSU) MS&T: Lance Snead IEEE: Mark Tillack (UCSD) RPS: Paul Wilson (UW) YMG: Ahmad Ibrahim (ORNL)

Webmasters:

FED Website: Mark Tillack (UCSD) UW Website: Dennis Bruggink (UW)

FUSION SCIENCE AND TECHNOLOGY

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June 2015

To:Jess Gehin, Chair, ANS Technical Journals CommitteeFrom:Nermin A. Uckan, Editor, Fusion Science and TechnologySubject:Editor's Report for the Period May 1, 2014 to April 30, 2015

The following is a summary of paper statistics and editorial activities for *Fusion Science and Technology* (FS&T).

During the period May 1, 2014 to April 30, 2015, FS&T received a total of 348 manuscripts.

Of the 348 manuscripts, 93 were from North America, 81 from Europe (including Russia), 158 from Asia, and 16 from Others, with the following breakdown: 258 have been accepted, 71 have been rejected/withdrawn, and 19 are under review/revision.

Following dedicated issues were published during the period 5/1/14 to 4/30/15:

- Selected papers from ICFRM-16 2013 FS&T July/Aug 2014
- ARIES-ACT Power Plant Study FS&T Jan 2015
- Selected paper from Tritium 2013 (camera-ready) FS&T Mar & Apr 2015

Following issues are scheduled for remainder of 2015

- Selected paper from OS2014 FS&T Jul 2015
- Selected papers from TOFE2014 FS&T Sept & Oct 2015

Following issues are scheduled/planned for 2016 and beyond

- NIF-NIC Special Issue FS&T Jan/Feb 2016 [scheduled]
- Target Fabrication 2015 special issue FS&T (mid 2016)
- 1st IAEA-TM on Fusion Data Processing, Validation, Analysis FS&T (late 2016)
- Selected papers from Tritium 2016 FS&T (2017)
- Selected papers from TOFE2016 FS&T (2017)



Summary of paper statistics during this and previous periods are summarized in below tables and attached charts.

FS&T Manuscripts	oy Regions [05/0)1 – thru – 04/3	80]		
Year	Total Ms Received	North America	Europe	Asia	Others
2014/15	348	93	81	158	16
2013/14	242	39	64	132	7
2012/13	262	112	56	88	6
2011/12	247	33	89	116	9
2010/11	387	120	110	152	5
Reference 00/01	63	29	8	23	3

* Papers rejected/withdrawn from pre-review/pre-selection from many of the conferences and special issues are not included in paper counts and regional breakdowns in the ANS/FS&T database.

		01 – thru – 04/30]		
Year	Total Ms	Accepted/	Rejected/	Review/
	Received	Scheduled	Withdrawn	Revision
2014/2015	348	258	71	19
2013/2014	242	207	35	0
2012/13	262	207	55	0
2011/12	247	164	83	0
2010/11	387	301	86	0
Reference 00/01	63	41	22	0

Best regards,

Nermin A. Uckan

Nermin A. Uckan, Editor



