

**US Burning Plasma Organization
Meeting of the Council
July 16, 2008 (3:30-5:30 p.m. EDT)
Videoconference Minutes**

Council Members in attendance:

Steve Allen (outgoing)
Martin Greenwald
Rich Hawryluk
Amanda Hubbard (chair)
Earl Marmar (outgoing)
Stan Milora – *US ITER Chief Technologist*
Martin Peng
Craig Petty (outgoing)
Gerald Navratil (outgoing)
John Sarff
Edmund Synakowski
Tony Taylor
Mike Ulrickson

Ex-officio participants in attendance:

Erol Oktay – *USDOE*
Jim Van Dam – *USBPO Director and US ITER Chief Scientist*

Others in attendance:

Chuck Greenfield — *USBPO Deputy Director*
Nermin Uckan — *USBPO Asst. Director for ITER Liaison*

Unable to attend:

C.S. Chang
Dave Petti (outgoing)
George Tynan
Bill Nevins
Mike Zarnstorff (Vice-Chair)

1. Roll call, introduction of new members.

Council Chair Amanda Hubbard started the meeting at 3:30 pm EDT by introducing and welcoming new members of the Council. Martin Greenwald (MIT) and Edmund Synakowski (LLNL) were elected by the USBPO members. Following the USBPO Bylaws, the Director then appointed Mike Ulrickson (Sandia NL) and C. S. Chang (NYU) to fill the remaining open positions, in consultation with the Council Chair and OFES. All of these people are well known in the fusion community and bring valuable expertise.

Hubbard also thanked the outgoing members—Steve Allen (LLNL), Steve Cowley (UCLA), Gerald Navratil (Columbia), Dave Petti (INL), Earl Marmar (MIT) and Craig Petty (GA)—for service over past two years (and in some cases more, on pre-BPO steering committees.) These people have served variously on drafting the Charter and Bylaws, a Director Search, ITER Plan and many other tasks. USBPO leadership appreciates their efforts and hopes they will stay involved in the organization.

Both incoming and outgoing members were invited to this meeting. For voting purposes, the new members took office beginning at this meeting.

The roll call was then taken, with attendance as noted above. Nine of the current thirteen voting members were present, for a quorum.

2. Review of minutes from March 5, 2008

Draft minutes from the last meeting, which were distributed to Council members on July 9th in January, were approved without changes.

3. Report on election of new Council members

Craig Petty, who chaired the nominating committee for the first Council elections, reported on the nomination and election process. The nominating committee was formed of Petty, Steve Allen, Earl Marmar, Gerry Navratil, Tom Rognlien, and Dave Petti, and conducted business by email and conference calls. A solicitation for nominations was sent to all BPO members, including associates, not only the US; the solicitation was also published in the eNews. However, the number of community nominators was relatively low and was dominated by those in USBPO leadership. Further efforts to increase participation next year should be made. Regardless, there was an excellent slate with 13 total candidates. Based on guidance from the last Council meeting to aim at a slate of 5-7 candidates, the list was narrowed to seven based on Subcommittee discussions. In hindsight, keeping all nominations from the general membership might have been preferable. The proposed slate was then sent to Council, OFES and the USBPO Directorate, who all approved it. The final election slate was:

Lee Berry (Oak Ridge National Lab.)

Cary Forest (Univ. Wisconsin)

Martin Greenwald (MIT Plasma Science and Fusion Center)

Arnold Kritz (Lehigh Univ.)

Ted Strait (General Atomics)

Ed Synakowski (Lawrence Livermore National Lab.)

Mike Ulrickson (Sandia National Lab)

The election itself was run using a website hosted by Univ. Wisconsin. All users found this worked very smoothly, and it is recommended that the same process be followed next year. In advance of the meeting, the "Membership" list was checked to make sure all were Regular members, enrolled in one or more Topical Groups. Those who were not Members were encouraged to enroll. Calls to vote were sent to 273 Regular Members, with a reminder sent a few days before voting closed. 140 Members (51%) voted. Council found this participation rate very encouraging. As noted above, the two candidates receiving the most votes were Greenwald and Synakowski.

Hubbard thanked USBPO Communication Director James DeKock (U. Wisconsin), and Administrator Emily Hooks (U. Texas) for their considerable efforts in setting up and testing the election website so that it ran smoothly and ensured security and confidentiality. Director Jim Van Dam added his thanks, and also thanked outgoing members and welcomed new members. He noted that Earl Marmar will continue to lead

the strategic planning subcommittee on US-ITER Participation and participate in Council meetings until that report is completed.

4. Proposed rotation of Topical Group leadership

James Van Dam informed and consulted Council about changes in Topical Group leadership. He noted that new US leadership for ITPA Topical Groups had very recently been selected, with USBPO input, and that it was desirable to align the ITPA and USBPO leadership. To initiate the leadership rotation process, it is planned to replace leaders of five of the ten Topical groups this year. For various reasons, three of the groups (Energetic Particles, Diagnostics and Integrated Scenarios) have had changes with in the past year, as noted in past Council meetings. It is proposed to change leadership in the Macroscopic Plasma Physics Topical Group and the Confinement and Transport Physics Topical Group at this time.

For Macroscopic Plasma Physics, current leader Jon Menard will rotate out. Van Dam proposed that Deputy Leader Chris Hegna (U. Wisc) replace him, and that Ted Strait (GA), who is the US ITPA Topical Group leader, and International ITPA Deputy Chair, become the new USBPO Deputy Leader. Council concurred with this appointment.

For Confinement and Transport Physics, current leader Paul Terry will rotate out. Van Dam proposed that Deputy Leader Ed Doyle (UCLA) replace him. A candidate for Deputy Leader was also proposed from among the US ITPA leaders. Several Council members pointed out that while this individual was extremely well qualified, he, like Doyle, was primarily a DIII-D researcher and that it might be better to select someone with different research interests to broaden the group's leadership. Others felt that this was not a primary consideration. It was decided to leave the final selection to the Director after consulting possible candidates about their availability and interest.

Note: Following this Council meeting, Van Dam appointed John Rice (MIT), also an ITPA Confinement and Transport member, to the Deputy Leader position, as well as Ed Doyle to the Leader position.

5. Strategic Planning: Report from Subcommittee on US-ITER Participation

Earl Marmor reported on the progress of this Council subcommittee, which he is chairing.

The report will consist of an Executive Summary and Introduction, followed by six chapters on topical campaign areas, organized around three general questions:

- a) What is the US research agenda for ITER?
- b) How will ITER promote progress toward making fusion a reliable and affordable source of power, and how will that progress be assessed?
- c) What is the relationship of ITER to other elements of the US Fusion Energy Sciences research program?

The topical chapters have been drafted by subgroups of the committee, and these drafts are now being iterated by the whole committee (thirteen members). The introductory chapters will then be drafted.

Action: Marmar agreed to circulate the draft report to Council for comment once it is complete.

Van Dam and Erol Oktay noted several other planning activities which relate to this work. The CRISSSP report from the NRC, which commented on the original EPAct plan, will be released in a few days. Also, the first version of the ITER Research Plan, prepared by the IO with the assistance of the international community, was completed in May. Marmar noted that his committee had received this IRP, and that there has been interaction with the US members of the international IRP group (Mickey Wade, Mike Bell, Ed Synakowski; Bell is also a member of the USBPO subcommittee). Finally, it was noted that Congress has recently requested a new strategic plan for the US fusion program.

6. Update on USBPO activities and plans

USBPO Director Jim Van Dam and Deputy Director Chuck Greenfield gave a report on USBPO and related activities since the last Council meeting,

Topics covered by Van Dam included:

- **ITER:** Van Dam noted that most developments on the ITER project have been summarized in regular “Director’s Corner” columns in the monthly e-News. He encouraged Council members to read this, to avoid repeating items during Council meetings. He noted that STAC met in April and May, and that USBPO organized extensive briefing sessions before these meetings which STAC members found very helpful. Rich Hawryluk will be giving a talk on design review activities at the IAEA conference. Discussions are ongoing with Curt Bolton (OFES) and Ned Sauthoff (USIPO) about means of increasing theory support for ITER.
- **USBPO communications and outreach:** A primary vehicle of communication continues to be the monthly e-News, which now has 424 recipients on the mailing list. Editor Raffi Nazikian is to be commended for getting interesting articles and publishing regularly. Council comments and suggestions are welcome. USIPO continues to seek more 3D movie clips for outreach activities, and we have heard from interested people as far as Australia. Work continues on a new USBPO logo. The USBPO annual report is now available online.
- **USBPO presentations:** The 2008 TTF meeting included a special session on ITER, at which Wayne Houlberg (IO) and Chuck Greenfield (USBPO) gave presentations. Van Dam addressed the IUPAP on June 2nd, and updated the VLT on STAC issues on June 4th. Several BPO-related presentations are expected at the next FESAC meeting. Van Dam will present a talk at the US ITER Project Office’s Technical Advisory Committee meeting in August.

Greenfield gave further details of the TTF evening session, which he had organized. ITER IO member (and longtime US researcher) Wayne Houlberg gave a presentation on

how ITER organization envisions working with the international science community, especially regarding integrated modeling, which will be outside ITPA. This was useful in getting an ITER view of how ITPA/ITER relations will work. It is expected that “official” ITER tasks will come to the USIPO, then be forwarded via the USBPO if physics-related.

The Research Committee and USBPO leadership have spent a lot of time working on ITPA leadership and membership. OFES has indicated that it wants USBPO to help organize a proposed workshop on research needs for burning plasma issues; the details of this are not yet clear. As discussed at the last Council meeting, the RC is discussing how to transition over the next few months into other, longer term, activities now that the urgent needs of the ITER design review and STAC issues are winding down. Recent presentations by David Campbell on ITER research needs are providing useful context. New USBPO Task Groups are being set up or under discussion on Test Blanket Modules (led by Nermin Uckan), a study of the ITER heating and current drive mix (led by Chuck Kessel) and input to the ITER Research Plan.

Preparations are underway for a contributed oral session at APS-DPP focused on work for the ITER Design Review, with contributions from several US and international laboratories. An evening session on ITER, with talks on both political and technical issues, is also being organized.

In discussion, ITER design review participant Rich Hawryluk commented that the US role in design review and STAC issues has been instrumental in resolving them, and that USBPO should not only continue to respond to IO requests, but also be proactive in identifying key research issues on ITER

7. Report on ITPA activities

Erol Oktay updated the Council on numerous recent developments regarding ITPA. A number of related documents, including the Charter, ITER High Priority issues, international leadership and proposed US membership were sent to Council members shortly before the meeting.

Regarding international leadership, OFES and USBPO solicited suggestions from the US fusion community and nominated candidates for all seven topical groups. We are pleased that the three US Chairs (Bruce Lipshultz, Stan Kaye, and Rejean Boivin) and one Deputy Chair (Ted Strait) were selected for three-year terms. EU has two Chairs and two Deputies, and all other parties except Russia have one leader. Each topical group also has an IO Deputy Chair to enhance coordination with ITER. At the Coordinating Committee meeting in June, both outgoing and incoming leaders met to discuss past and future activities, and produced a list of High Priority Research Needs.

The next step has been to identify up to seven US members for each group, including US leaders responsible for communicating with the rest of the community via USBPO. USBPO members, and program leaders, were asked to nominate people. USBPO

leadership has been closely involved in the difficult task of selecting the slate of members. Expertise and willingness to serve were prime considerations. In many cases, particularly those areas where scope has been combined (as in Transport and Confinement) or broadened (as in Integrated Operational Scenarios), it was not possible to include all those whose expertise is desirable. A draft slate had just been sent to program leaders for comment. This should be finalized and sent to the ITPA Coordinating Committee by the end of July.

Given the difficulty of selecting only seven members, the USBPO Executive Committee considered also having a few “associate members” in some groups, who would not be official international members but would receive all US communications and be encouraged to be fully involved. This would be similar to the past situation with Members and Experts and in particular, could help include Technology and Engineering experts from VLT. However, OFES has decided that this might hinder integration of USBPO and ITPA and discourage others from participating, and does not plan to have such Associates.

There was extensive discussion by Council of ITPA issues. Taylor commented that some of the ITER High Priority issues were not adequately covered by the experts on the slate. Oktay responded that this was unavoidable and highlighted the need to include the rest of the USBPO; specific suggestions for changes in membership would be considered. Several members were in favor of keeping the “Associate Member” category. Arguments made were that it could make the additional needed experts feel more included and likely to contribute, and simplify communications, avoiding the need to forward all emails to a large group. Others felt that the creation of a third category, in addition to USBPO and ITPA membership, could diminish the role of USBPO and make some feel excluded. There was concern that other parties might object to too many US participants. There was general agreement that effective and increased communication between ITPA and USBPO was essential. Suggestions made included forwarding all ITPA communication to the related USBPO groups, using e-news for ITPA reports, and scheduling internet seminars. Lack of open access to information by some ITPA groups was raised as an issue. Due to lack of time, the discussion was curtailed and continued via email following the meeting.

Action: Van Dam agreed to report back to Council in about six months as to how these new arrangements for ITPA-USBPO integration are working.

8. Other business

Van Dam thanked USBPO leaders, and Erol Oktay, for time and effort in recent months, as well as Rich Hawryluk and Nermin Uckan for much information on ITER. The next Council meeting is expected to be held by videoconference in late September or October. Council members also felt that past lunch meetings during APS have been beneficial, and it was recommended to hold one this year.

The meeting was adjourned at 5:35 p.m. EDT.