

Minutes of the APEX Steering Committee Meeting on 16 November 2000 at SNL

Participants: Abdou, Berk, Kaita, Majeski, Mattas, Morley, Nelson, Nygren, Petti, Rognlien, Sawan, Sze, Ulrickson, Wong, Ying, Youssef, Zinkle

The steering committee met in the evening of November 16. Several issues were discussed further in the general discussion session on November 17. The steering committee met again in a wrap-up session following the general discussion session. Part of the meeting was a joint APEX SC and ALPS SC to decide on issues of common interest. Given below is a summary of the steering committee meeting and action items. While the summary of the general discussion session will be posted separately on the web, only the major action items from the general discussion session are given here.

- A significant part of the meeting was devoted to discussing the objectives and role of the liquid surface technology working group. Establishing this group was proposed by Sam Berk during the town meeting held in the evening of November 14. Mike Ulrickson will lead the working group. He presented a draft plan and schedule. The issues related to the working group, its mission, and relation to ALPS and APEX, were discussed. The main objective is "To enable the physics mission of a major plasma device through development of a liquid surface PFC in the near term." While the ALPS and APEX projects will continue exploring innovative PFC/HHFC and chamber technologies, the working group will utilize the expertise from these programs for near term development of liquid surface modules to be deployed in existing physics devices. The acronym ALIST (Application of Liquid-plasma Interaction Science and Technology) will be used for the working group. Mike Ulrickson will develop the technical plan for the ALIST WG.
- Using liquid walls as conducting shells has tremendous pay-offs. The effort in this area will be enhanced. A separate APEX task will address this issue. Mohamed Abdou will arrange for a conference call with Bob Kaita, Mike Kotschenreuther, and Neil Morley to discuss how to approach this issue and suggest people from the fusion community to be involved in that effort.
- The issue of materials support for APEX was discussed. Mohamed Abdou pointed out that a statement is needed from the material program regarding the use of W and SiC as well as the compatibility between structural materials and liquids used in the APEX concepts. Sam Berk will work with Steve Zinkle to ensure that resources are made available for the material program to be responsive to the APEX needs.
- Institutional funding allocations were presented by Sam Berk. Needs for additional funding requested by performing institutions were discussed. The allocation of the undesignated funds in the December financial plan was decided by voting.
- Regarding the alternate concepts, the following decisions were made. Tom Rognlien will continue plasma edge modeling to explore the different concepts. Ralph Moir

will continue investigating using liquid walls in the FRC and Spheromak. Task III will assess if and when LW engineering issues in stellarators can be addressed.

- Task IV will start evaluating the operational limits for a SiC/LiPb design (similar to ARIES-AT blanket). Later in the year a Flibe concept with a yet to be determined structural material will be assessed. Coordination with the ARIES team is important. The aim here is not to dwell on the details of the design but rather assess the limits.
- Task III is expanded to cover all engineering issues of liquid walls. The leaders of Task III will work with Mohamed Abdou on developing a technical and management plan.
- Sam Berk indicated that the schedule for the spring peer review of chamber technology is flexible and could be after the next APEX meeting.
- The next APEX meeting will be at UCLA. It is scheduled to be coupled with ALPS. The format will be assessed to enhance its efficiency by having more overview than detailed talks. The meeting will be scheduled in the 2nd or 3rd week of April. Team members with conflicts in these two weeks are requested to indicate that to Mohamed Abdou as soon as possible. An E-meeting will be held in the 1st week of February.
- The steering committee endorsed the institutional funding allocations for Task IV presented by Clement Wong subject to availability of funds.
- The steering committee acknowledged the tremendous effort of Mahmoud Youssef as a scientific secretary. The APEX web site is being an excellent tool for communicating information between team members in addition to informing the fusion community about APEX activities.
- In view of the added task on stabilizing shells and need for coordination between tasks III and IV and between different APEX tasks and the ALIST WG, Mohamed Sawan reiterated the SC decision in May that task leaders are requested to send a reminder to the APEX core team at least a day before the monthly scheduled task conference call. The importance of promptly sending the conference call summary was reemphasized.