

## **BPO boundary physics breakout session – 12/7/05**

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Procedure for answering charge questions (questions reproduced on next page):

1. Two overview talks on boundary and PFCs – invited by organizers
2. Individuals will present talks representing their views or a group's in the morning – only a few clarifying questions allowed to preserve discussion time
3. Joint session with Macroscopic stability on ELMS and disruptions after lunch
4. Group discussion to answer charge questions after joint session – strawman answers formulated, based on morning's talks and earlier email comments

The Charge Questions are repeated below:

### **A. Recent Developments:**

1. What major BP-related developments (in theory, modeling, experiment and technology) have occurred in this area since the Snowmass 2002 study?

### **B. Implications and Outstanding Issues:**

2. What issues remain to be resolved for a successful BP experiment in ITER? What issues need addressing to ensure both: a) access to the BP regime; and b) our ability to fully exploit a BP experiment in ITER?
3. What are the consequences of resolving these issues, or not, in the next ~10 years?
4. What issues should be resolved by a successful BP experiment? *At this workshop, we expect to concentrate on the issues which should be resolved by ITER. In this process, it is likely that some issues that are not likely to be resolved on ITER will also be identified.*

### **C. What should the U.S. fusion community do:**

5. What contributions can/should the U.S. fusion program make to resolve these issues?
6. How should the BPO be structured to best help the community make these contributions?

## Boundary Breakout Agenda

- A. Leonard - "Boundary Physics Issues – View from the Pedestal Outward" 8:30 AM  
D. Whyte - "Boundary Physics Issues – the View from the PFCs Inward" 9:00 AM
- G. Bateman for CS Chang 9:30 AM  
"Role of the Center for Plasma Edge Simulation in Burning Plasma Research and Its Response to BPO questions."
- P. Snyder for T. Rognlien 9:45 AM  
"Role of the Edge Coordinating Committee in Burning Plasma Research and Its Response to BPO questions."
- J. Brooks – "PFC Community Response to the BPW Questions" 10:00 AM  
G. Tynan 10:10 AM  
"UCSD MFE Experimental Program Group Response to the BPW Questions"

### Coffee Break 10:20-10:30 AM

- L. Zakharov 10:30 AM  
"The Lithium Wall divertor Solution for ITER vs. the Present High Recycling Divertor"
- M. Kotschenreuther – "Does Divertor Control the Fate of Fusion?" 10:40 AM
- C. Skinner – "Boundary Physics in the ITER Era" 10:50 AM
- L. Baylor 11:00 AM  
"Fueling Needs and Capabilities for ITER Burning Plasmas"
- D. Dippolito 11:10 AM  
"Importance of Edge Physics in Optimizing ICRF Antenna Performance"
- D. Hillis 11:20 AM  
"Need for a Strong US International Collaboration Program to Address Burning Plasma Relevant Issues"
- D. Hill 11:30 AM  
"The Role of the USBPO in Boundary Research during the Next Decade"
- Open Discussion and contingency* 11:40 AM

### Lunch 12-1 PM

#### Joint session with Macroscopic Stability Group: "ELMs and Disruptions" 1-3 PM

ELMs 1-2 PM

P. Snyder – review on ELMs

M. Fenstermacher – "Control of the Pedestal and ELMs with Resonant Magnetic Perturbations and Research Needed toward a Burning Plasma Implementation"

Disruptions 2-3 PM

D. Whyte – review on disruptions

J. Wesley – "Disruption Research Needed for Burning Plasma Preparation"

### Coffee Break 3:00-3:15 PM

*Formulation of answers to charge questions* 3:15 PM