

# **Minutes of the Meeting of the Fusion Energy Sciences Advisory Committee**

**November 25, 2002  
Marriott Hotel, Gaithersburg, Maryland**

## **Committee Members Present:**

Richard D. Hazeltine (Chair)—University of Texas at Austin  
Charles C. Baker—University of California, San Diego  
Ricardo Betti—Rochester University  
Jill P. Dahlburg—General Atomics  
Jeffrey P. Freidberg—Massachusetts Institute of Technology  
Martin J. Greenwald—Massachusetts Institute of Technology  
Joseph J. Hoagland—Public Power Institute, Tennessee Valley Authority  
Rulon Linford—University of California  
Kathryn McCarthy—Idaho National Engineering and Environmental Laboratory  
Gerald A. Navratil—Columbia University  
Cynthia K. Phillips—Princeton Plasma Physics Laboratory  
Ned R. Sauthoff—Princeton Plasma Physics Laboratory  
John Sheffield—Oak Ridge National Laboratory/University of Tennessee  
Ed Thomas Jr. — Auburn University

## **Committee Members Absent:**

Joseph A. Johnson, III—Florida A&M University  
George J. Morales—University of California, Los Angeles  
Marshall N. Rosenbluth—General Atomics

## **Ex-Officio Members Present:**

Michael Mauel (Division of Plasma Physics, American Physical Society)—Columbia University  
Wayne R. Meier (American Nuclear Society)—Lawrence Livermore National Laboratory  
Ned R. Sauthoff (Institute of Electrical and Electronics Engineers)—Princeton Plasma Physics Laboratory.

## **Ex-Officio Members Absent:**

None

## **Designated Federal Officer Present:**

N. Anne Davies (Associate Director, Office of Fusion Energy Sciences)—U.S. Department of Energy

## **Others Present:**

François L. Waelbroeck (FESAC Secretary)—University of Texas at Austin

## **1. Call to Order and Opening Remarks**

The meeting was called to order by the chair, Richard Hazeltine, at 8:30 a.m. on Monday, November 25, 2002.

The chair welcomed Dr. A. Davies, Associate director of the DOE Office of Fusion Energy Science. Dr. Davies reported on the state of the budget process, burning plasma consensus building, and on the SC strategic plan. Her talk was followed by some questions and a discussion concerning the progress of the Iter process.

## **2. Fusion Development panel report (R. Goldston)**

Rob Goldston next presented the report of the fusion development panel he chaired. The comments by FESAC members were generally supportive of the report. A focus of some of the discussion was the role of alternates in the plan and the need for future “down-selection.” Panel members noted that the report provides criteria for future decisions to promote and demote concepts. Goldston explained that the main responsibility of the panel was to provide a schedule for when such decisions should be made.

Richard Hazeltine next invited Dale Meade to present a public comment. Meade expressed his support for the panel report but asked that the importance of the dual path strategy be noted in the cover letter. Some discussion followed on the advisability of addressing his request through a change in the panel report as opposed to a statement in the cover letter. Some FESAC members also expressed discomfort with the 2004 budget figure recommended in the panel report.

## **3. Fusion Simulation Project panel report (J. Dahlburg)**

After a lunch break Jill Dahlburg presented the report of her panel on the Integrated Simulation and Optimization of Fusion Systems initiative, which her panel has renamed the Fusion Simulation Project (FSP). Her presentation was greeted warmly by FESAC. One of the themes during the subsequent discussion was the question of how to assure adequate interaction between the FSP and experiments. Dahlburg’s talk was followed by a public comment session.

Prof. A. Kritz (Lehigh U.) commented that he would like to see the FSP report call for the involvement of users in the first 5-year period. He further suggested that whole-device modeling also be scheduled earlier, in the first 5-year period. Dr. G. Wurden (LANL) next presented two comments. He addressed his first comment to the fusion development panel, suggesting a more aggressive approach based on installing a blanket module on ITER to demonstrate power production. His second comment, addressed to the ISOFS committee, was that \$20M/year seems inadequate to achieve the goals of the FSP.

## **3. Discussion of the Fusion Development panel report and cover letters (R. Hazeltine and R. Goldston)**

Following the public comment session Richard Hazeltine read to the committee a draft letter to Dr. Orbach, director of the DOE Office of Science, endorsing the report of the FSP panel. The letter was accepted with an added statement encouraging interaction with experiment.

Hazeltine next read a second draft letter to Dr. Orbach endorsing the report of the fusion development panel. The panel discussed three changes to the development panel report and associated changes to the cover letter. The first of these was to endorse preparations for FIRE EDA. The second was to remove the budget figure recommended for 2004. Both of these garnered broad support and were accepted after consultation with panel members. The third and last change, advocated by panel chair Goldston, was to remove a statement referring to the geopolitical motivations for vigorously pursuing fusion. After discussion it was decided to retain the statement. Lastly, the cover letter endorsing the report was accepted with minor changes and the chairman adjourned the meeting.