

Minutes of the Meeting of the Fusion Energy Sciences Advisory Committee

**March 3-4, 2003
Hilton 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
Joseph A. Johnson, III—Florida A&M University
Rulon Linford—University of California
Kathryn McCarthy—Idaho National Engineering and Environmental Laboratory
George J. Morales—University of California, Los Angeles
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:

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 Chair opened the meeting at 8:30 AM and welcomed Dr. R. Orbach, Director of the Office of Science.

Dr. Orbach thanked FESAC for its quick response to the Snowmass Summer Study of major next steps and to the report of the Austin panel on burning plasmas. He stated that the September FESAC report defines the path of the program toward burning plasmas, and impressed on the committee the significance of the president's remarks on fusion. He commented on the complexity of the budget planning process and the consequences of delays in approving the 03 budget. The administration's position is that DOE must focus on ITER in its planning for large machine expenditures. In particular, we must strive to achieve maximum benefit from ITER both scientifically and industrially.

In questions to Dr. Orbach following his talk some members expressed concern that participation in ITER raised the need to train a diverse workforce. In response to other questions, Dr. Orbach warned that the program faced a couple of lean years.

2. OFES Perspective (A. Davies)

Dr. Orbach was followed by Dr. A. Davies who presented the FY04 budget and a comparison to the FY03 budget. Questions to Dr. Davies focused on the process for identifying community priorities with regards to the nature of our participation in ITER and how these priorities would be communicated to the negotiating team.

The questions served to introduce the following talk by Dr. Ned Sauthoff who reported to FESAC on the on-going process for estimating the costs of possible US contributions to ITER and broader issues relating to the negotiations over in-kind contributions.

3. Discussion

Chairman Hazeltine next read a draft of a letter to R. Orbach regarding the President's FY04 budget. Changes were proposed aimed at adjusting the level of emphasis on chamber technology, FIRE and IFE, and the letter was amended accordingly. Some members expressed concern that the letter encouraged a change in priorities without giving sufficient indications as to the direction of the desired change. A vote on the letter showed that 10 members approved of it, 3 disapproved, and one (C. Baker) abstained. The Chair decided to table debate on the letter.

4. Public comments

After a discussion of the budget, the committee heard public comments. Dr. Baldwin informed the committee of a white paper prepared by GA to assist the US team in ITER negotiations over in-kind contributions. Dr. Hassam described another white paper on ITER by the University Fusion Association (UFA).

5. Report on Development path (R. Goldston)

R. Goldston, chairman of the development path panel, next described the report of this panel. The Committee praised the report for its honesty, credibility and balance. The

workforce issue was again raised and discussed. One member commented that this was the first time that a comprehensive long-term plan covering both magnetic and inertial fusion had been put forth.

6. Public comments

The committee next heard more public comments by Dr. J. Lindl and Dr. S. Dean who warned about the severe damage threatened by proposed cuts to the IFE part of the program. Dr. A. Hassam, president of University Fusion Association, presented a UFA letter decrying the threat to science and overall balance of the President's FY04 budget.

SECOND DAY

7. Report on NRC panel activities

Ray Fonck opened the second day of the meeting with a report on the work of the NRC burning plasma panel.

8. Discussion of letters

The committee considered a letter endorsing the report of the development path panel. The committee approved the letter unanimously. It then resumed the discussion of the letter to Dr. R. Orbach regarding the President's FY04 budget. A revised version of the letter was presented by Chairman Hazeltine and accepted unanimously with one abstention (C. Baker).

9. Discussion

The meeting closed with a brief discussion of the agenda for the next meeting. The items discussed included whether to have a talk on management and procurement, what action should be taken with respect to the workforce issue, and how to inform the community of FESAC actions. The meeting was then adjourned.