

Report of the 2nd EAST International Advisory Committee Meeting

October 14, 2006

Executive Summary

The second meeting of the EAST International Advisory Committee (IAC) was held on October 13-14, 2006 at the Chinese Academy Institute of Plasma Physics (ASIPP) in Hefei. The meeting took place soon after the production of the first plasma in EAST. This outstanding achievement is an important milestone in the development of fusion worldwide.

The IAC thanks ASIPP for the opportunity to hear reports of the engineering and construction of the EAST tokamak, results of its first plasma operation, plans for future research as well as providing a tour of the EAST facilities. Currently EAST is undergoing systems developments, including plasma production and control.

The committee was impressed with the high quality construction of EAST. Carrying out the design, R&D, construction and commissioning within such a short time constitutes a remarkable feat of fusion engineering worldwide. It bodes extremely well for Chinese contributions to ITER.

EAST is the only tokamak in the world operating with ITER-like all superconducting magnets. The magnets, which were fabricated at ASIPP, are all operating at their design levels. EAST will operate advanced elongated plasma shapes and will soon have actively cooled in-vessel components for steady state operation.

Further planned and necessary development includes implementation of higher power heating and current drive and a more complete set of diagnostics. The IAC strongly supports the need for additional resources to implement these capabilities. We expect the necessary resources will be comparable to the investment in the existing tokamak facility. We encourage ASIPP to implement these capabilities as soon as possible. With the completion of these plans, EAST will be a frontline device capable of carrying out a scientific program aimed at developing steady-state high performance physics and technology in support of ITER and fusion energy.

The IAC recommends that China rapidly expand its theory and modeling capabilities to support EAST and participation in ITER. The committee identifies several key areas of theoretical emphasis in the near term and suggests that this effort could be accomplished via collaborations with Chinese universities and with international theory groups.

The IAC was pleased to learn of several international collaborations that EAST has initiated and now encourages increasing collaborations now that EAST is operational.

The following sections include the committee's comments and recommendations on engineering, experimental research, and theory.