

Critical Issues Associated with the ITER ECH System

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A design review of ITER is under progress aiming at identifying critical issues that may affect items requiring a long lead time. The review covers ITER and auxiliary systems including the electron cyclotron (EC) heating and current drive (H&CD) system. ITER collected issues cards that were submitted by the worldwide community and identified critical issues associated with the power supplies, gyrotrons, transmission lines, launchers and their respective interfaces. Then an H&CD working group was established comprised of individuals acting *ad personam* to evaluate these issues ranking them according to their criticality. Issues given the highest critical rating were developed into ITER task agreements (ITAs), which were then sent back to each domestic agency (DA). The DAs were requested to dedicate human resources to find solutions to these critical issues. Each DA could then respond to these ITA, depending on their interest and available resources.

The European Fusion Development Agreement (EFDA) has accepted the challenge to find solutions to nearly all of these critical issues associated with the EC system. These tasks were distributed out to the various associations participating in the European contribution to the ITER EC systems. EFDA encouraged the collaboration of this work not only within the European community but also with the other ITER partners to insure workable solutions for the entire EC system. The aim of this paper is to review these critical issues and the status of the present analyses being performed by the European team. The critical issue and the corresponding analyses associated with each subsystem will be reviewed. Particular attention will be given to the interface issues associated with the assembling all subsystems into a single unit and the integration of this system into ITER.