

**US ITER Forum  
Activity Proposal Form**

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What is the scope of your proposed activity?

Design and fabricate the Electron Cyclotron (EC) Heating and Current Drive system, including the following ITER procurement packages: Equatorial Launcher, Upper Launcher, Transmission Line, RF Power Sources and Controls, and Power Supplies.

In which phase(s) would the activity be conducted?

Pre-construction (2003-5)

Refine performance requirements based on results from ongoing physics experiments

Develop and test prototype ITER hardware

Define, design, and build a test facility to test prototypes and production components and fully integrated ITER EC system

Construction (2006-13)

Fabricate and test the ITER EC components, and possibly install and commission them at the ITER site

Research (2014-34)

Perform physics experiments on ITER using the EC system for plasma heating, control, and current drive

In which phase(s) would the US benefit be realized?

Pre-construction (2003-5)

Continued growth in EC technology base

Construction (2006-13)

Continued growth in EC system performance

Research (2014-34)

Continued growth in EC heating and current drive physics and plasma control

What do you see as the US interest in the programmatic area of your proposed activity?

EC systems will continue to be a key tool in achieving and exploring Advanced Tokamak regimes in ITER and for DEMO

For design and fabrication activities, what do you see as the US interest in performing the design and fabrication scope in your proposed activity?

Following up on its pioneering history over two decades in developing EC technology and physics

Indicate the nature(s) of the proposed activity:

- US preparations for Negotiations  
Negotiate for the procurement packages to supply all or some of the components of the ITER EC Heating and Current Drive system
- US preparations for the Construction Phase  
Perform necessary R&D to develop prototype EC components to meet the ITER performance requirements  
Prepare procurement packages for fabrication of the ITER EC components by US industry
- US preparations for the Research Phase  
Continue strong internal US EC physics program to support ITER EC system development and physics personnel
- R&D and design work  
Refine EC system performance requirements based on results from ongoing physics experiments  
Develop and test prototype ITER hardware  
Develop detailed layout and design of ITER EC system  
Define, design, and build a test facility to test prototypes and production components and fully integrated prototype ITER EC system
- Fabrication of US components/systems  
Fabrication and test of the ITER EC components, including the Equatorial Launcher, Upper Launcher, Transmission Line, RF Power Sources and Controls, and Power Supplies
- Preparation of tools for the Research Operations Phase  
Exploit the synergism between the US RF physics research scientists, with their codes and experience, and the hardware expertise of the labs, universities, and industry, to produce the EC system that is needed to support the experimental program of ITER
- Other: \_\_\_\_\_