

**US ITER Forum
Activity Proposal Form**

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What is the scope of your proposed activity?

To develop an intense pulsed diagnostic neutral beam (IDNB) to enable active spectroscopic diagnostics on ITER. The proposed IDNB system can maintain a necessary S/N ratio of charge-exchange recombination spectroscopy (CHERS) signals even at the center of the burning plasma. We will build a prototype IDNB source which will be available for implementation on a major magnetic fusion facility to demonstrate its benefits and reliability in four years.

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

Pre-construction (2003-5) Construction (2006-13) Research (2014-34)

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

Pre-construction (2003-5) Construction (2006-13) Research (2014-34)

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

According to the report of the FESAC panel on "A Burning Plasma Program Strategy to Advance Fusion Energy", it is the second highest priority for US "to develop enabling technology that supports the burning plasma research and positions the US to more effectively pursue burning plasma research" in overall objectives for US participation in the Burning Plasma Program. Furthermore, the panel recognizes that the highest priority for US contributions to the ITER project should go to such areas as "baseline diagnostics, plasma control, remote research tools, etc." Thus, we believe that our proposal of IDNB clearly address the issues raised by FESAC panel on a burning plasma program and US participation to the program.

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

The core CHERS and helium ash measurements are key diagnostics for burning plasmas R&D. An active participation in this area is critical to maintain the strong US lead in this vital area.

Indicate the nature(s) of the proposed activity:

- US preparations for Negotiations
- US preparations for the Construction Phase
- US preparations for the Research Phase
- R&D and design work
- Fabrication of US components/systems
- Preparation of tools for the Research Operations Phase
- Other: _____