

**COMMENTS ON:**

**COUPLING OF US ITER PROGRAM  
TO FUSION ENERGY SCIENCES PROGRAM**

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## **“...ITER will be different...”**

- **“Green Field” International Collaboration at Unprecedented Scale**
- **“Rules” will be different & are not yet fully defined**
- **Paradigm based on present collaborations in fusion (domestic & international) on established facilities will not apply:**

**Typically today we bring new tool and extend capability of existing facility defining your project role.**

**Likely ITER Team fraction based on fraction contributed not what was contributed & run time and leadership based (in part) on scientific merit.**

## **US Goal: Maximize US Scientific and Technical Benefit from ITER**

**FESAC: “A burning plasma program is needed as a crucial...”**

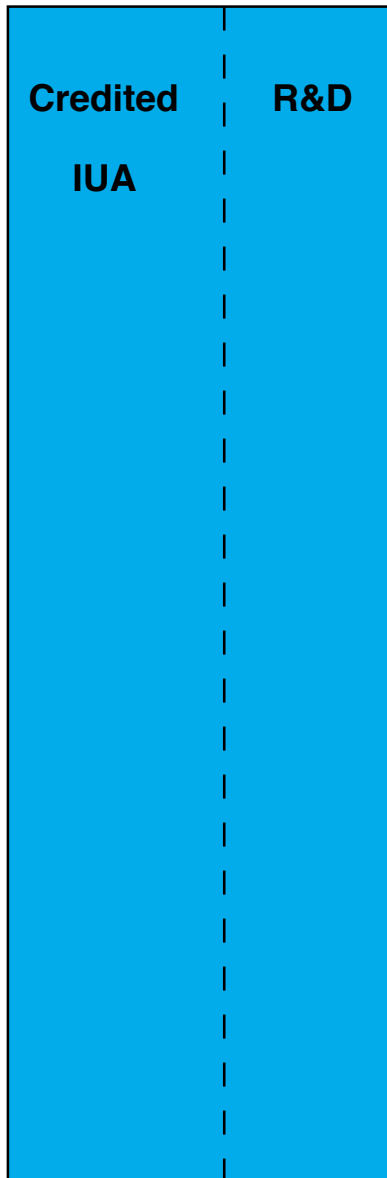
**“A burning plasma experiment would be an integral part of the Fusion Energy Sciences research program.”**

**US ITER Strategy must balance two crucial but partly conflicting goals:**

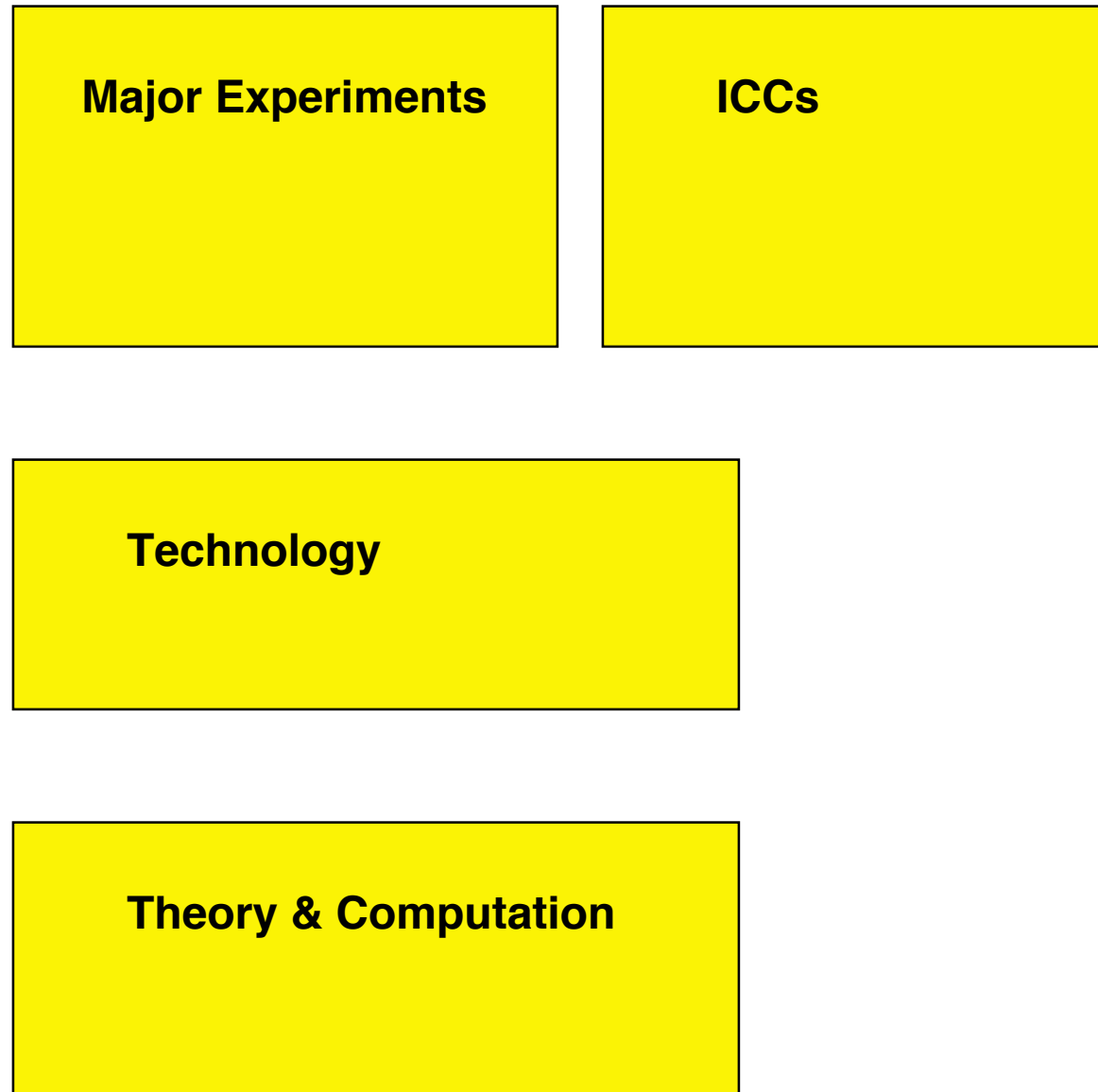
**Strong Core Fusion Energy Sciences Program  
AND successful US ITER program**

# US Fusion Energy Sciences Program

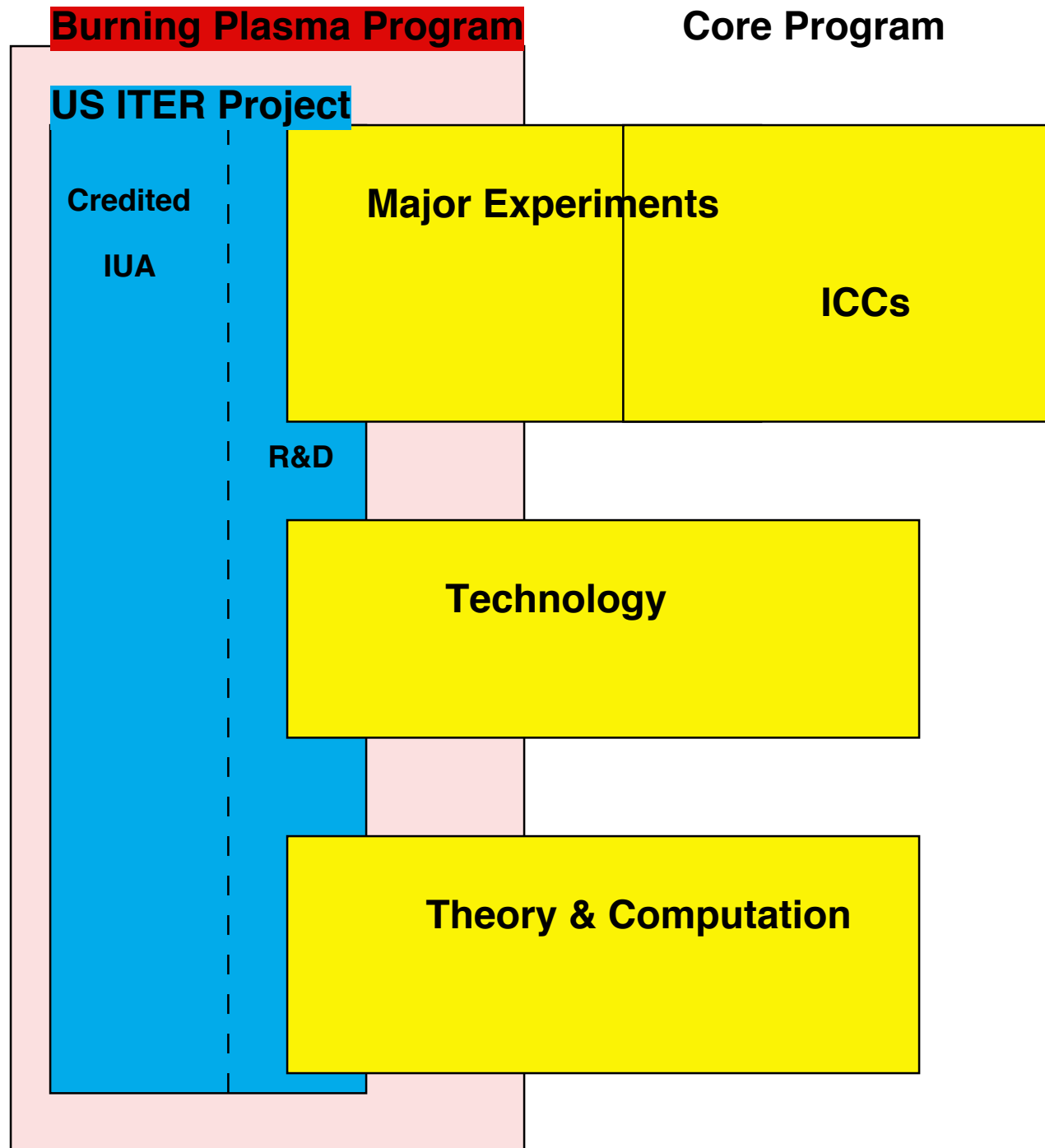
## US ITER Project



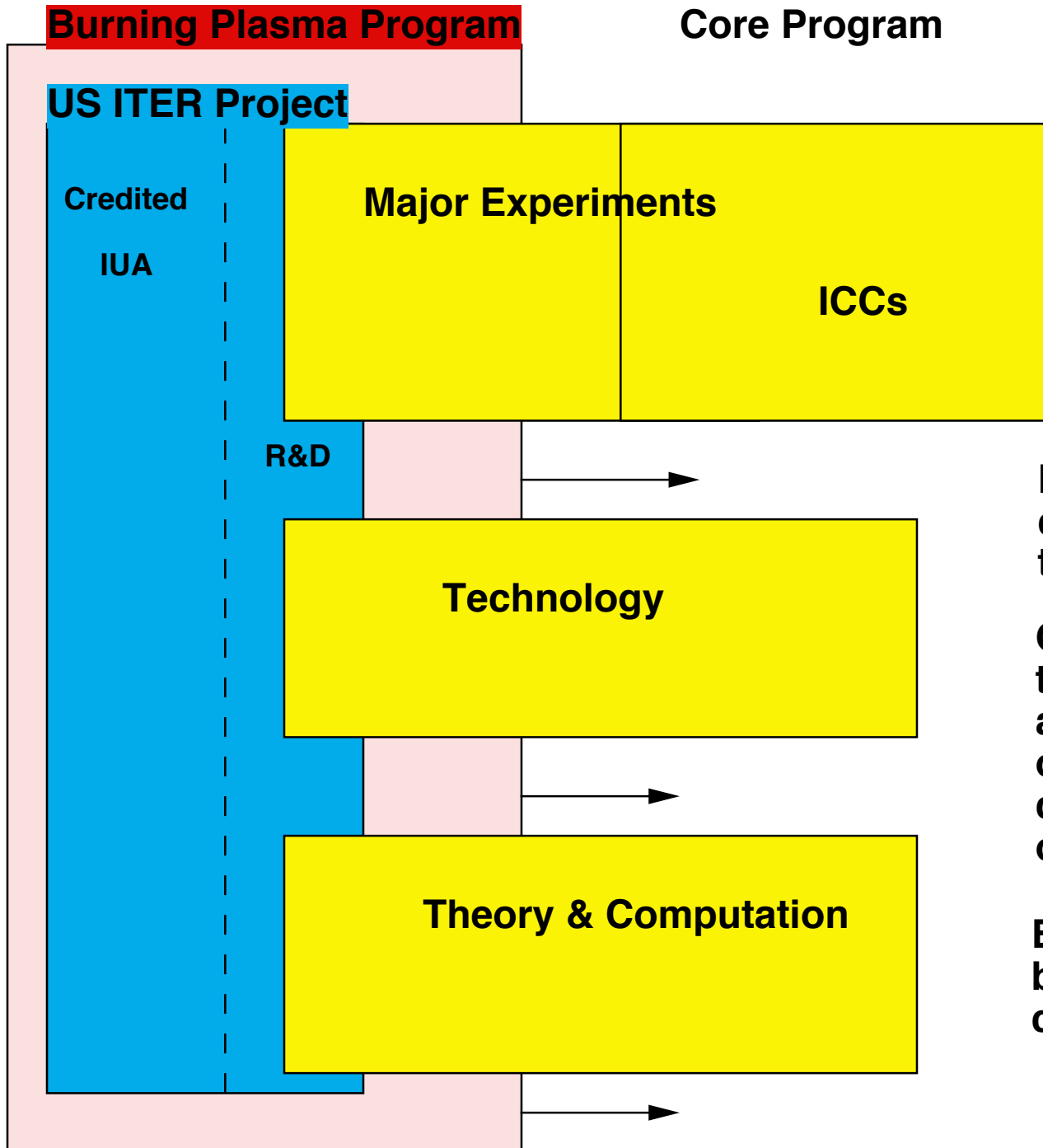
## Core Program



# US Fusion Energy Sciences Program



# US Fusion Energy Sciences Program



**Key Issue: Boundary can move to consume the Core Program**

**Good if driven over time by interest and scientific opportunity: "a coalition of the willing"**

**Bad if driven by low budgets or poor cost control of ITER project**

**US ITER Strategy must balance two crucial but partly conflicting goals:**

**Strong Core Fusion Energy Sciences Program  
AND successful US ITER program**

**RISK MANAGEMENT IS KEY:**

**Bulk of ITER Construction IUAs should be in low risk, well defined technical packages: conductor, power supplies,...**

**Higher risk packages should be limited fraction and well chosen for maximum project & programmatic leverage: must also have large contingency built in.**