Discussion: What should be the US approach for ITER negotiations and planning?

A. How should we rate in importance our criteria for evaluating the procurement packages?

- **Unofficial Linkage of contribution to procurement and role in research is a key factor raised at the break out session. In fusion the FACILITY IS THE EXPERIMENT. Involvement in key systems can strongly enhance our integration in the research program. This affects the selection of priorities.**

- **Run time later should be awarded on the basis of merit—base program must keep tokamak science moving forward so the US is in a good position to propose experiment. Some packages may position us to make more meritorious run time proposals.**

- **Some tension between engineering and physics in choice of packages**

Edited list from the PAC:

1. US research positioning
Priority: High
Metric: Extent to which activity positions the US to perform research on ITER.

Comment: The PAC recommends that the ITER project adopt a policy in which future research participation of an ITER party does *not* depend on the type (as opposed to the level) of contribution to the construction activity. However, if there is a link then the priority is high. If there is no official linkage, then the priority is low.

2. ITER-value per dollar
Priority: High
Metric: ITER value/(US cost of full scope of R&D + design + fab + contingency)
Comment: The contingency should incorporate the degree of risk.

3. Relative strength or leverage of US contribution to ITER
Priority: High/Medium
Comment: An example of high relative strength may be divertor cassettes (in which the US already invested substantial R & D); an example of high leverage may be superconducting strand (for which the world supply is limited).

4. Contributions to US fusion program
Priority: Medium

Metric: Enhancement of US capability for activity outside ITER

5. Does the activity enhance the fusion-relevant capability of US industry?

6. Is the activity an opportunity for US industry?

Procurement packages:

3 potential scenarios can be envisioned (construction phase):

Scenario 1: The US (and other parties) contribute to ITER "in kind" only, which means that all the procurement, construction, testing and installation at the site are done by the parties. The role of the central ITER team would be minimal, limited to coordination for example.

Scenario 2: The parties contribute to an ITER central team in "cash" only. The organization then takes charge of all procurement, construction and installation through bids. The procurement may be a truly international open bid process or a so-called "just return" bid process (i.e. 10% contribution corresponds to 10% bids back in the party).

Scenario 3: Hybrid, The most important packages (the ones we value the most, e.g. 25 or 50% of total) are "in-kind" and the rest is in "cash".

Answer: It must be (3) but the PERCENTAGES are unknown until the procurement packages are fully evaluated.

Cash will fix contribution with lower risk. If you give cash to a central management team you are in control of the project. If you do in-kind then you have lower central control. Thus, for a strong central management, we need more cash rather than in-kind.

Do we gain leverage by offering cash? Not clear!

OTHER:

• What should we be doing now to prepare research teams to work on ITER?

• Should there be more emphasis on mode of the research such as ITPA as a mechanism for transition to ITER?

• We need to develop remote participation tools through current research.

• We need more base program that supports participation in the ITPA activities, particularly for universities.

• International teaming allows access to R&D and defers risk and exploit R&D by teaming with other countries. This has not been considered very seriously.

Should there be a follow-up forum? Suggestions for time and topics?

- Yes, but only if something important really happens, like a site selection…

How can we make the process more transparent? There does not appear to be transparency!! These meetings need to provide transparency.

Maybe we need virtual working groups, national working groups in key areas, and maybe international working groups.

How do you communicate progress those to people who are not in the working groups? This is the role of the forum.

We need the Burning Plasma PAC and the US ITER management to send people to community meetings to set up evening/auxilliary sessions to discuss progress and to proactively provide outreach.

The End