

# ASC...

- ASC talk.
  - Probably a bit too long...don't want to add any material.
  - Minimal comments on ASC topics in PAC debrief slides.
    - Suggestion to incorporate HHFW in scenarios...thanks Randy.
    - Need to include incorporation of the non-inductive ramp-up.
  - Should make more clear in talk/chapter how the ASC research prepares for the full high-Z wall.
  - Should think more about the stated goals for ASC (see next slide).
- Incremental budget w/ focus on high-Z is compelling, but nevertheless represents a redirection of the program.
  - Have only 1 year at 1 T, 2MA with C PFCs, and no cryo-pump.
  - No time to exploit what we might learn w/ new diagnostics, further analysis... incremental \$\$ pays for people and M&S, but not time.
  - I'm not advocating against it, simply pointing out that it is a significant redirection of the mission.
    - And a bit odd that the "incremental" mission is so different than the "base" mission.
- Aside: I am not convinced that partially relaxed low- $I_p$  Ohmic target provides the same target for NB ramp-up as a CHI- or gun-plasma.

# Highest-Level Time Lines & Goals

- Goal 1: Physics basis for selecting the aspect ratio of FNSF by 2020 (or some such verbiage).
  - Does DOE, and do we, believe that this requires 100% non-inductive, stationary integration with FNSF-relevant PFCs?
    - Difficult to fulfill, since FNSF-relevant PFCs are so poorly defined.
    - Probably no conventional aspect ratio tokamak will be in a similar position (high-Z + 100% NI at high-beta).
    - Assuming that this means high-Z PFCs, is a full high-Z wall in ~2017/2018 compatible with meeting this need?
    - What is the full scope of research before 2017/2018 needed to prepare for this wall and rapidly develop capabilities?
- Goal 2: "...5-year plan with respect to how well it addresses the key physics issues needed to evaluate the potential of the ST to provide high-performance plasmas for use in a future fusion research facility"
  - Risk we cannot do this under any of the budget scenarios under consideration.
  - Would be a bit easier if we should shift the plan by 1 year.
    - Would DOE allow the plan to start in 2015?
  - Should we emphasize more the the PAC or review panel that we are not focusing on the complete integration in the present 5 YP.
    - Issue for ASC goals.