

# XP1526 modification discussion

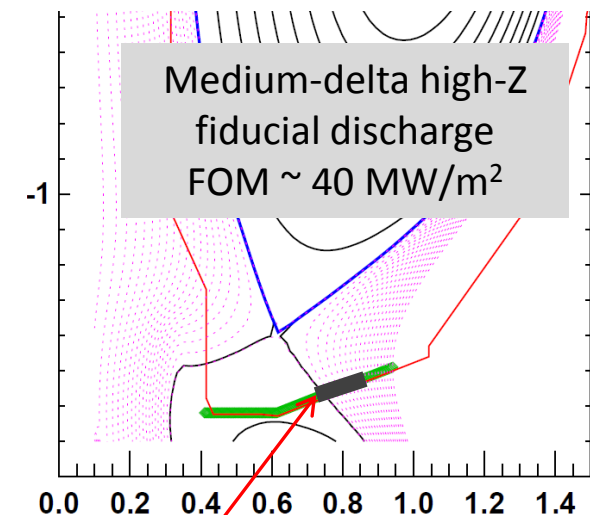
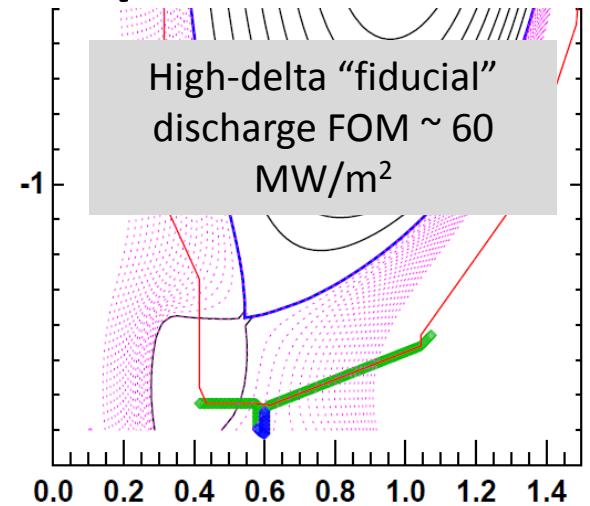
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# Run time and machine capabilities

## suggest modifying shot plan

- XP supports R17-2 milestone
  - P1a priority status
  - Team review complete
  - CHIT resolution remain
- Needs modification on several points
  - Divertor gas injector not available (no ETA?)
  - PF1C no longer available, need to redevelop shape w/ controller available



Row 2 Tile location

Primary XP goal: power on row 2 tiles;  
Secondary goal: maximize publications

- Team meeting presentation by Menard featured very few boundary XPs
- M&P TSG and High-Z project needs heat-flux scenarios to provide operations guidance for FY17
- Would like to ensure maximal researchers get some data in FY16 ahead of APS/IAEA/ITPA

# Proposed modification will capture elements of other XPs in group

- Not changed: Power scan (8 shots)
  - 4,6,8,10MW (2 shots each)
  - Inter-shot LITER
- Maintain density scan as much as possible (4 shots min)
  - Perform uncontrolled density scan by eliminating LITER, constant active fueling
  - Conduct at 6MW (or highest stable power)
  - Repeat discharge, or repeat a 2-shot depletion sequence (e.g. 100mg and 200mg)
- Can drop boron portion of XP if necessary (scheduling uncertainty)

# Suggested coordination

- Combines elements of Scotti and Soukhanovskii/Nichols XPs in second part of XP
  - **Does not replace those XPs, but hedges against possibility that run-time runs out**
  - **Maintains primary XP goal of power and particle fluxes at strike-point in high-Z shape (Jaworski + Gray)**
- Scotti concerned with Areal density/incident ion fluence at strike-point (inferred from XP proposal)
- Nichols primarily concerned with validating WalldYN modeling and whole-machine evolution measurements (PhD thesis) coordinating with Bedoya as well
- Soukhanovskii can begin establishing baseline discharge for high-Z shape
- Added benefits: K. Gan (UT-K) close to operating, Reinke (ORNL)+Van Eden (FOM-DIFFER) close to operating IRVB

# Discussion goals

- **Will this help you?**
- Are there shifts in the notional shot-plan that will help you more?
  - Need to maintain high-Z shape
  - Keep contingency in case gases change quickly
- Other concerns?