

TF Joint Operations Review Summary

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- Potting improvements will overcome primary problem of 2004 run
- Friction coating on hub disks eliminates a weakness which would have been limiting at higher fields
- *According to our analytic models....*
 - ✓ $Bt \leq 4.5\text{kG}$ operation should be robust
 - ✓ $4.5\text{kG} \leq Bt \leq 6\text{kG}$ operation is feasible but with liftoff
 - ✓ Peak pressure at joint, and box/hub friction interface are limiting factors
 - ✓ Temperature at joint is driven by high J around inserts, but appears to be within allowables with flat top of 0.5 seconds
- 6kG operation as analyzed appears to be less severe than worst case joint behavior during prior run period, in terms of peak pressure at joint

- Instrumentation and data mining tools will guide the commissioning and benchmarking process
- Initial phase of commissioning will target 4.5kG level
- Later phase of commissioning will target operation above 4.5kG, approaching 6kG, pending results of benchmarking and experience at 4.5kG
- Simplified models have been developed for use in real-time protection which shall be implemented prior to operations above 4.5kG