Follow-on MERIT Testing at ORNL

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New Capabilities at ORNL

- Discussions with Tim Bigelow, ORNL Fusion Energy Division, indicate some existing experimental power supplies will be moved from Y-12 to ORNL

- Some of the power supplies will have capability to power MERIT solenoid
  - 650V peak
  - 15,000A pulsed > 5sec
  - Voltage and/or current can be controlled by SCR gate waveform control
7627 Power Supply Building

- New building
- Final design complete
- To be located behind 7625
  - Construction bids requested

Schedule completion: Sept 2008

Several power supplies will be installed
Bldg 7625

- Pit capable of housing MERIT experimental equipment
- LN2 dewar in place
- 20T overhead crane
Equipment Layout 7627

Vertical field power supplies
650V peak
15,000 A pulsed > 5 sec
Voltage and/or current can be controlled by
SCR gate waveform control
Comments

- Major infrastructure should be available in late 2008, but connection costs may be incurred.

- Hazard analysis (radiation, Hg, LBE) will have to be performed, but no major obstacles envisioned.

- Hg system access and operations in activated condition unknown
  - Try to replace activated components or clean syringe pump such that it can be green-tagged?
  - Equipment access and modification will be more complicated (costly) than before experiment.

- Other power supplies will be available (capabilities unknown at this time) that might be useful for other HEP experiments in the future.