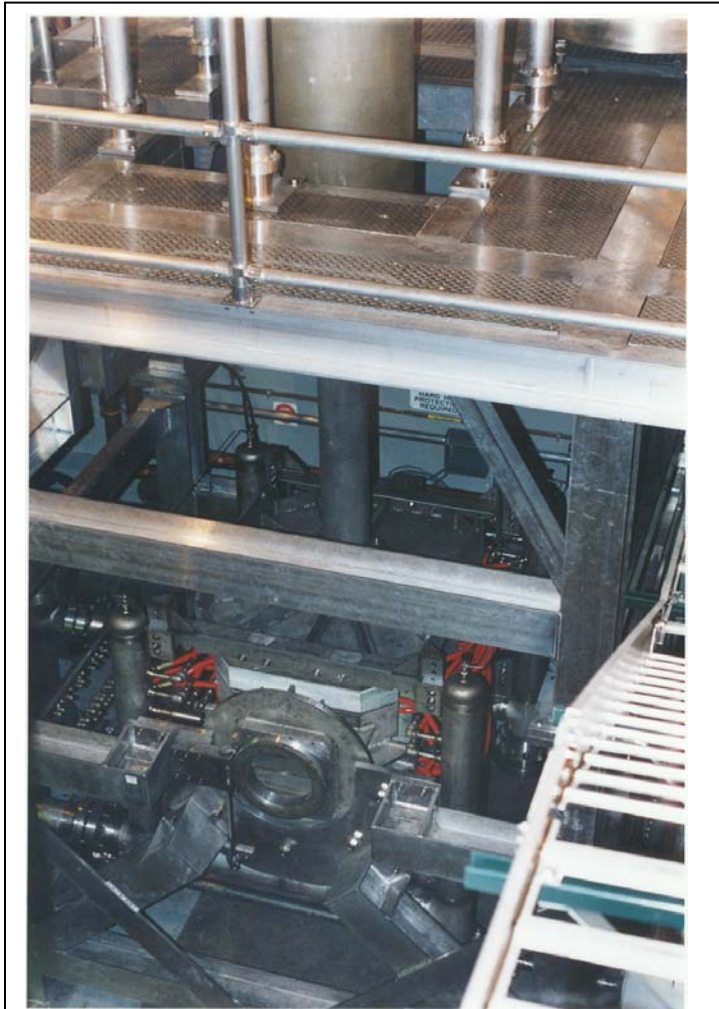


## MIT Test Plan Status



Lower Water Cooled Split Pair Copper Magnet -  
The BNL Pulsed Magnet will be in front of this  
Where the HXC Prototype cryostat is now  
positioned



PTF Upper Cryostat



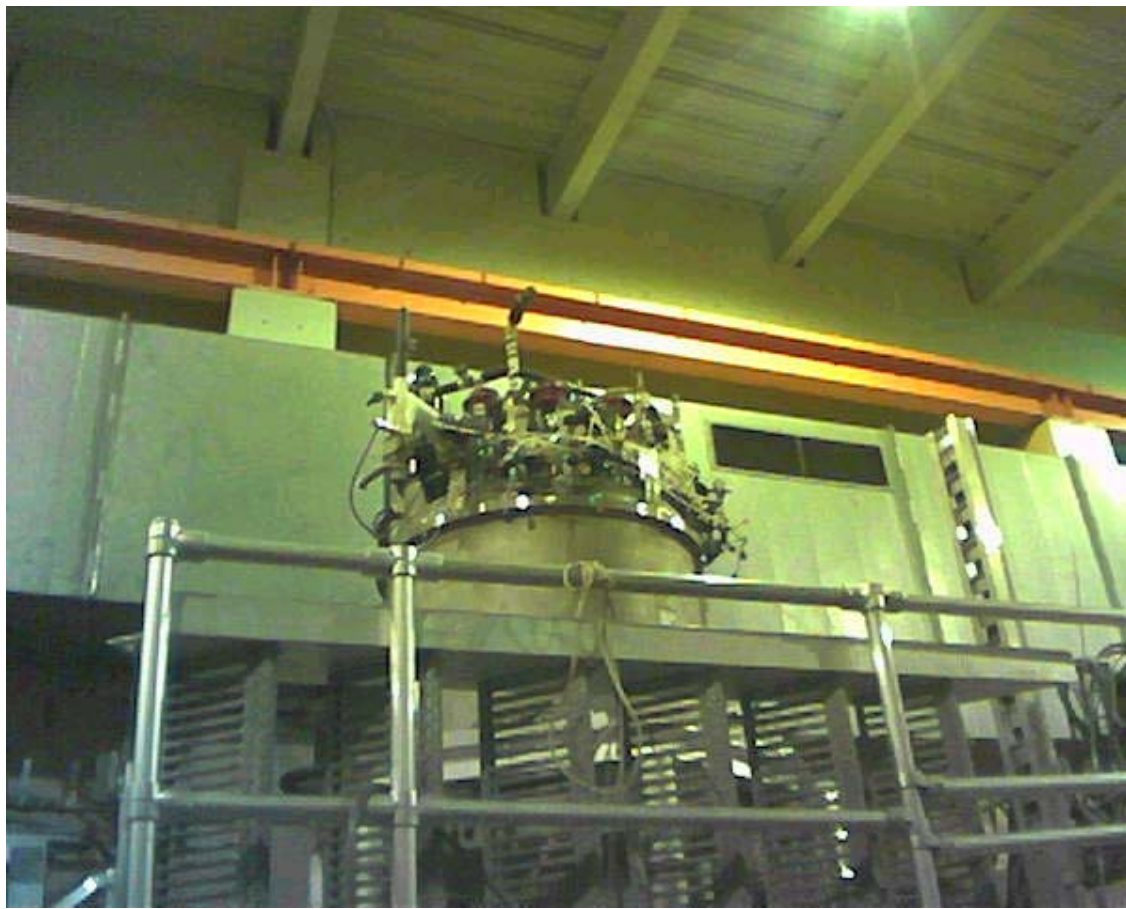
View at Floor Elevation



View looking down



## Vent Routing



The vent line must run behind the crane rail. To the roof. C-Mod's vent is a cold vent that exhausts to the rear of PSFC by the railroad tracks. The BNL Pulsed Magnet would exhaust through the roof, but near the alley next to the new dorm. – We may have to monitor plume temperature.

## **Instrumentation**

### Magnetic Field Measurements

Calibrated Hall probes are expensive, and it may be prohibitive to have one calibrated to 15T. The intention is to use an available Hall probe that is calibrated to 3 T (we may have one available that is calibrated to 10 T) Once the field is calibrated to the magnet current, the magnet performance should be linear with respect to current, however the accuracy of the field reported in the CERN tests will be a function of how accurately the power supplies at MIT and CERN with repeat the same current level. Purchase of a 10 kA shunt is recommended to go with the magnet. You read voltage across the shunt and with a known shunt resistance the current is known. Using the same shunt at CERN and MIT would guarantee the same current measurements.

### Temperature Sensors:

For the “Fill, Drain and Pulse” test, instrumentation requirements are minimal. The temperature sensors in the magnet should be read, but there is no need to read the temperature sensors during a pulse. This eliminates the concern over small currents in the leads in very high fields. Not all are needed to be read at any one time, but the system should have the capability to connect and disconnect. MIT PSFC T&E (Chen Yu Gung) has a MAC based data/instrumentation system with 16 channels that can be used with the CERNOX temperature sensors. There is an issue with respect to calibration of the CERNOX units. I need to check what is provided ,

## **Safety**

### Oxygen Depletion Sensors

Catherine Fiore indicated that C-Mod has a number of portable sensors that are used during C-Mod operation. They will be beginning operation in Feb 2005 and these will not be available to us. I need to check with LDX to see if they have fixed monitors in the cell, but two portables in the PTF “pit” are needed. These cost around \$600 apiece. Maybe we can borrow them from Brookhaven, Rutherford or CERN. Catherine will accept this kind of equipment from a collaborating lab.