

# InterCAT Technical Working Group Meeting

February 17, 2000

## *Agenda Review and TWG Activity Summary:* (Steve Heald)

Steve opened the meeting and reviewed the meeting agenda. Lahsen Assoufid announced the upcoming *International Workshop on Metrology for X-ray and Neutron Optics*, which will be held at the APS March 16-17, 2000. Details about the meeting can be found on the Web at <http://www.aps.anl.gov/conferences/xnom>.

## **Facility Reports**

### *Facility Update/News:* (Steve Davey and Bob Ferry)

- As part of the small quantity hazardous materials waiver, CAT members will be trained on April 6, 2000.
- Anyone with questions about bringing sealed sources on site should contact Bruce Glagola.
- Construction of the new 436 LOM is gearing up. Funding has been secured and designs are being reviewed. Construction should begin within the next six months.
- The last module (D) of the liquid nitrogen system is being installed this week. Complete ring fill-up with liquid nitrogen is expected by Monday, February 21. Tests of the interconnect valve between two different modules proved that 18 sectors can be supported by one dewar.
- Liquid consumption from the dewars needs to be studied. Currently, the dewar needs to be filled every five days. It would be preferable to have to fill less often; one option being considered include using bigger dewars (current size is 3000 gallons).
- An EPICS-based monitoring system is being established to monitor liquid nitrogen levels and line temperatures and to automatically activate interconnects between modules when necessary. This system should be functional in approximately six weeks.
- Some CAT liquid nitrogen delivery hardware is not yet "permanent" (e.g., copper lines and foam rubber jacketing). Heat loss calculations have been done that indicate a strong need to move toward permanent vacuum jacketing. It is estimated that if all lines were vacuum jacketed, 24 hours could be added to the time between dewar refills.
- Some problems have cropped up with the subcoolers that need to be addressed by the manufacturer; the APS is working to resolve these issues.
- Some CATs are still venting their pumps inside their enclosures. Floor Coordinator Bill Wesolowski can assist CAT staff to correct this situation.

## **CAT Reports**

### *MR-CAT technical update:* (Holger Tostmann)

Holger reviewed the staff members and institutions affiliated with MR-CAT. The MR-CAT ID line (which has an energy range of 5–80 keV) has officially been operational since January 2000. Holger discussed the energy range and noted that structure in beam intensity is found to be the most intense at low energies. He reviewed the possible origins of this phenomenon, indicating that the most likely source is interference from rough crystal surfaces. This effect might be mitigated by optically polishing the crystals. Some noise is seen at high energies that may be attributable to the liquid nitrogen pump and various actuators. Holger also reviewed recent and planned improvements to the beamline. He discussed in detail the in-hutch instrumentation on the ID line, emphasizing that it is optimized for fast changeover between different techniques and for simultaneous measurements.

On the BM line, the FOE has been approved and experiments are planned. Funding for construction of the BM beamline is pending.

**Next Meeting**

The meeting will be held Thursday, March 16, 2000, in conference room A1100.