

1. Self-shielding Detectors – how does affect conventional facilities?
2. Cooling by air systems
 - a. Temperature Requirements and tolerances
 - i. Detector
 - ii. Power supply rooms
 - iii. Computer and Control rooms
 - b. Air flow requirements and delta T
 - c. Humidity Requirements and tolerances
 - d. Heat loads to air – by area
 - e. Air exchange rates and purge requirements as it relates to heavier or lighter than air gas use. Hazardous or flammable gas.
3. Cooling by water systems
 - a. System types, ICW, warm LCW, cooled LCW, chilled LCW, chilled water (CHW)
 - b. Temperature requirements and tolerances
 - c. Water flow requirements and delta T
 - d. Heat loads to water – by system and area
4. Cryogenic use as it relates to conventional mechanical, electrical, and space requirements
5. Electrical Power Requirements (in watts)
 - a. Experimental Systems power requirements includes detectors, electronic, control rooms, etc.
 - b. Power Supplies
 - c. Primary and “out of beam” detectors
 - d. Grounding (isolation of grounding systems)
6. Fire Protection/Life Safety Systems
 - a. Use of suppression gases, where, required volumes
 - b. Sprinkler systems
 - c. Fire detection – spot type, VESDA, line type heat detection