LoKI PBS

Draft V10.5

14/11/14

- 13.6.3 LoKI (SANS)
  - 13.6.3.1 Beam Transport and Conditioning System
    - 13.6.3.1.1 Beam Extraction System
      - 13.6.3.1.1.1 Monolith Insert
        - 13.6.3.1.1.1.1 Guide Bender (In Monolith Guide)
        - 13.6.3.1.1.1.2 Monolith Insert Structure
        - 13.6.3.1.1.1.3 Insert alignment mechanism
        - 13.6.3.1.1.1.4 Streaming shielding (In-insert shielding)
      - 13.6.3.1.1.2 Monolith Window
    - 13.6.3.1.2 Beam Delivery System
      - 13.6.3.1.2.1 Neutron Guide System
        - 13.6.3.1.2.1.1 Neutron Guide Glass
        - 13.6.3.1.2.1.2 Guide Housing (Vacuum)
          - 13.6.3.1.2.1.2.1 Guide Glass Alignment
          - 13.6.3.1.2.1.2.2 Vacuum Window
          - 13.6.3.1.2.1.2.3 Vacuum Jacket
        - 13.6.3.1.2.1.3 Guide Support System
          - 13.6.3.1.2.1.3.1 Neutron Guide Alignment mechanism
          - 13.6.3.1.2.1.3.2 Neutron Guide Support system
          - 13.6.3.1.2.1.3.3 Neutron Guide Base Plates
      - 13.6.3.1.2.2 Neutron Guide Shimming (Heavy Collimation)
    - 13.6.3.1.3 Chopper System
      - 13.6.3.1.3.1 Pit assembly 1
        - 13.6.3.1.3.1.1 Wavelength Selection Chopper System
        - 13.6.3.1.3.1.2 Resolution enhancement chopper assembly 1
        - 13.6.3.1.3.1.3 Pit system
      - 13.6.3.1.3.2 Pit Assembly 2
        - 13.6.3.1.3.3.1 Resolution enhancement chopper assembly 2
        - 13.6.3.1.3.3.2 Pit system
      - 13.6.3.1.3.3 Pit assembly 3
        - 13.6.3.1.3.3.1 Sub frame overlap chopper assembly 1
        - 13.6.3.1.3.3.2 Resolution enhancement chopper assembly 3
        - 13.6.3.1.3.3.3 Pit system
      - 13.6.3.1.3.4 Control Systems
      - 13.6.3.1.3.5 Support Systems
      - 13.6.3.1.3.6 Service package
    - 13.6.3.1.4 Beam Geometry Conditioning
      - 13.6.3.1.4.1 Guide Collimation System
        - 13.6.3.1.4.1.1 Collimation Guide Section 1
          - 13.6.3.1.4.1.1.2 Interchangeable Guide Glass Sections
          - 13.6.3.1.4.1.1.3 In Collimator Guide Shielding
          - 13.6.3.1.4.1.1.4 Motion Mechanics
          - 13.6.3.1.4.1.1.5 Collimation vessel
        - 13.6.3.1.4.1.2 Collimation Guide Section 2
          - 13.6.3.1.4.1.2.2 Changeable Guide Sections
          - 13.6.3.1.4.1.2.3 In Collimator Guide Shielding
          - 13.6.3.1.4.1.2.4 Motion Mechanics
          - 13.6.3.1.4.1.2.5 Collimation vessel
        - 13.6.3.1.4.1.3 Collimation Guide Section 3
          - 13.6.3.1.4.1.3.2 Changeable Guide Sections
          - 13.6.3.1.4.1.3.3 In Collimator Guide Shielding
          - 13.6.3.1.4.1.3.4 Motion Mechanics
          - 13.6.3.1.4.1.3.5 Collimation vessel
      - 13.6.3.1.4.2 Slit collimation system
        - 13.6.3.1.4.2.1 Sample slit package
          - 13.6.3.1.4.2.1.2 Motion Mechanics
          - 13.6.3.1.4.2.1.3 Absorber Blades
      - 13.6.3.1.4.3 Aperture Collimation System
        - 13.6.3.1.4.3.1 Aperture Package 1
          - 13.6.3.1.4.2.1.2 Mechanics
          - 13.6.3.1.4.2.1.3 Absorber Blades
          - 13.6.3.1.4.2.1.4 Aperture Vessel
        - 13.6.3.1.4.3.2 Aperture Package 2
          - 13.6.3.1.4.2.2.2 Mechanics
          - 13.6.3.1.4.2.2.3 Absorber Blades
          - 13.6.3.1.4.2.2.4 Aperture Vessel
        - 13.6.3.1.4.3.3 Aperture Package 3
          - 13.6.3.1.4.2.3.2 Mechanics
          - 13.6.3.1.4.2.3.3 Absorber Blades
          - 13.6.3.1.4.2.3.4 Aperture Vessel
        - 13.6.3.1.4.3.4 Aperture Package 4
          - 13.6.3.1.4.2.4.2 Mechanics
          - 13.6.3.1.4.2.4.3 Absorber Blades
          - 13.6.3.1.4.2.4.4 Aperture Vessel
      - 13.6.3.1.4.9 Beam Geometry Conditioning Support and Alignment System
    - 13.6.3.1.5 Beam Filtering System
      - 13.6.3.1.5.2 Frame Overlap Mirror
    - 13.6.3.1.6 Beam Validation
      - 13.6.3.1.6.1 Beam Monitors
        - 13.6.3.1.6.1.1 Beam Monitor Detector
        - 13.6.3.1.6.1.2 Beam Monitor Electronics
      - 13.6.3.1.6.2 Flux Measurement assembly (Gold foils)
    - 13.6.3.1.7 Flight Tube
    - 13.6.3.1.8 Beam Cut Off
      - 13.6.3.1.8.4 Secondary shutter
        - 13.6.3.1.8.4.1 Beam stop / absorber
        - 13.6.3.1.8.4.2 Motion Mechanics
      - 13.6.3.1.8.6 Beam Stop
        - 13.6.3.8.6.1 Get Lost Tube
        - 13.6.3.8.6.2 Beam Dump
    - 13.6.3.1.9 Vacuum System
      - 13.6.3.1.9.1 Beam Delivery Vacuum System
      - 13.6.3.1.9.2 Chopper Vacuum System
      - 13.6.3.1.9.3 Collimation Vacuum system
      - 13.6.3.1.9.4 Flight Tube Vacuum System
  - 13.6.3.2 Sample Exposure System
    - 13.6.3.2.1 Sample Positioning
    - 13.6.3.2.2 Ancillary Mounting
    - 13.6.3.2.3 Sample Environment
  - 13.6.3.3 Scattering characterisation System
    - 13.6.3.3.2 Neutron Detector System
      - 13.6.3.3.2.1 Neutron Detector
        - 13.6.3.3.2.1.1 Detector
        - 13.6.3.3.2.1.2 Detector Electronics
          - 13.6.3.3.2.1.2.1 Detector DAQ
          - 13.6.3.3.2.1.2.2 Detector Readout (DMSC)
          - 13.6.3.3.2.1.2.3 DAQ Rack
      - 13.6.3.3.2.2 Neutron Detector Positioning
        - 13.6.3.3.2.2.2 Positioner Mechanics
        - 13.6.3.3.2.2.3 Positioner MCUs
      - 13.6.3.3.2.3 Neutron Detector Vessel
    - 13.6.3.3.3 Vacuum System
      - 13.6.3.3.3.2 Detector Vessel Vacuum System
  - 13.6.3.5 Experimental Cave
    - 13.6.3.5.2 Utilities Distribution (see Breakout)
    - 13.6.3.5.3 Support Infrastructure (See Breakout)
    - 13.6.3.5.4 Shielding
      - 13.6.3.5.4.1 Cave shielding (Nuclear)
      - 13.6.3.5.4.2 Cave Building
    - 13.6.3.5.5 Cave Structure
    - 13.6.3.5.6 Sample Environment Utilities supply board
      - 13.6.3.5.6.1 Power Board
      - 13.6.3.5.6.2 Supply Gasses Board
      - 13.6.3.5.6.3 Chilled Water
    - 13.6.3.5.7 Sample Environment Control Box
    - 13.6.3.5.8 Rail System for Equipment Mounting
  - 13.6.3.6 Control Hutch
    - 13.6.3.6.3 Support Infrastructure (See Breakout)
    - 13.6.3.6.5 Hutch Building (Structure)
    - 13.6.3.6.6 Control Terminal
  - 13.6.3.8 Hall Two infrastructure
    - 13.6.3.8.2 Utilities Distribution (See Breakout)
    - 13.6.3.8.3 Support Infrastructure (See Breakout)
    - 13.6.3.8.4 Shielding
      - 13.6.3.8.4.1 Shielding (Nuclear)
      - 13.6.3.8.4.2 Shielding structural
    - 13.6.3.8.5 Control Racks
      - 13.6.3.8.5.1 DAQ Rack
      - 13.6.3.8.5.2 DMSC Rack
      - 13.6.3.8.5.3 Motion control Rack
      - 13.6.3.8.5.4 Chopper Control Rack
      - 13.6.3.8.5.5 Vacuum Control Rack
      - 13.6.3.8.5.6 Personal Safety System Rack
  - 13.6.3.12 Integration Control and Monitoring
    - 13.6.3.12.1 Instrument Control integration
      - 13.6.3.12.1.1 Generic Motion control
        - 13.6.3.12.1.1.1 MCI Collimation System
        - 13.6.3.12.1.1.2 MCI Sample slit package
        - 13.6.3.12.1.1.3 MCI Aperture packages
        - 13.6.3.12.1.1.4 MCI Sample Positioning
        - 13.6.3.12.1.1.5 MCI Detector Positioning
        - 13.6.3.12.1.1.6 MCI Heavy Shutter motion
        - 13.6.3.12.1.1.7 MCI Secondary Shutter motion
        - 13.6.3.12.1.1.8 ICS Integration
      - 13.6.3.12.1.3 Vacuum Control Integration VCI
        - 13.6.3.12.1.3.1 VCI Components
        - 13.6.3.12.1.3.2 VCI Sequencing
        - 13.6.3.12.1.3.3 ICS Integration
      - 13.6.3.12.1.4 Control Racks & Electronics
    - 13.6.3.12.2 PSS (See breakout)
    - 13.6.3.12.3 Data Management and Software Centre (DMSC)
      - 13.6.3.12.3.1 Data Systems and technologies
      - 13.6.3.12.3.2 Data management
      - 13.6.3.12.3.3 Instrument Data
      - 13.6.3.12.3.3 Data Analysis and Modelling

X Utilities Distribution
- X.1 Power distribution
- X.2 Chilled Water Distribution
- X.3 Compressed Air Distribution
- X.3 Gas Distribution

X Support Infrastructure
- X.1 Power
- X.2 Network
- X.3 Lighting
- X.4 Ventilation (HVAC)
- X.5 Fire protection
- X.6 Local Crane
- X.7 Public Address System
- X.8 Cable Trays

X Personal Safety System (PSS)
- X.1 Interlock System
- X.2 Radiation Detection
- X.3 Shutter Interface
- X.4 H_2O Detection System
- X.5 O_2 Monitoring
- X.6 H_2 Detection System
- X.7 Fire Protection System

Instrument Team
Optics & Shielding
PSS (Personal Safety System)
DMSC
Electrical Engineering
Detectors
Choppers
Sample environment
Vacuum Group