November 2003.

Summary of outstanding items having been noted as needing follow up.

ACS Modules and Integration in Tunnel:

- Arrangement of equipment and accessories
 - Routing of antenna and HOMC cables
 - Patch panel design, position
 - Re-orientation of tuner connections for easier access
 - HOMC Protecting cover
 - Space for ventilators on floor?
 - Mounting of waveguides around cavity:
 - Support design,
 - alignment requirements,
 - definition of reference points
 - Special equipment, special transport requirements
 - mounting procedures and documentation
 - Positioning of WG directional couplers, arc detectors in tunnel
 - Warm recovery line

Other Integration in UX45 Tunnel Area

- Ventilation in tunnel, TIS approval
- Radiation Stoppers (AT-VA)
- Dust traps (AB-BT)
- Water Layout for ADT
- Compressed air and water for ACN
- APW & functional specification
- Crash barriers

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- ADT cable positioning, Amplifier re-design for HV connector arrangement
- APW cable positioning
- Use of P6 for removal of ACS Modules

Integration in UX45 – RF side

- Platforms
- Cooling layout
- Waveguide support system
- Ventilation units
- HV bunkers specs for construction
- Junction box for HV cable connections from surface.
- UPS power supplies location

Integration in UX45 - Cryo side

• Number and positioning of LLRF racks

SR4 Layout

- Rack numbers and positions
- Faraday Cage dimensions, cost

ACS Cryo issues:

- Quench valves
- Instrumentation, with AT-CR

ACS DC Power:

- HV cable connections from surface, junction box, earthing (1 end / 2 ends ?)
- Power supply response on mains single phase drop-outs, 20% drops & resulting effects

ACS RF power - Klystrons & waveguides

- Recuperation of waveguides & material in ISR, + temporary storage if needed
- Study and tests of power equipment for klystron linearisation electronics specs
- Adjustment of klystron resonance peak
- Numbers and positioning and numbers of arc detectors and directional couplers in waveguides in UX45
- Power system behaviour with transients, requirements on interlocks (test chain)

Cabling

- Definition of cabling infrastructure requirements \Leftrightarrow Lists in Excel form (DIC)
- Earthing Layouts

LLRF

• RF detector/splitter hardware for signal references and power measurements.

APW

• Design and vacuum tests

Overall

• Updated installation planning for all systems and more detailed cost/manpower estimations

Other

• LEP equipment in ISR – recuperation / disposal