ISOLDE Technical Report for the INTC

Richard Catherall EN-STI
2nd February 2011
Agenda

- Shutdown Work
  - FE#7 installation
  - REX upgrade
  - RILIS upgrade
  - On-going work
- Safety
Target Removal

- Use of Type A transport container as requested by RP.
  - Implications to be assessed
- New 5 year buffer zone under construction
  - Gives time for hot cell construction
Front End #7

- Front End #4 removed successfully
- Cables and insulator successfully removed
- New insulator in place
- Difficulty in assuring cable passage between FE faraday cage and separator area.
- Phases 1 $\rightarrow$ 80% of provisional collective dose
- Phase 2 $\rightarrow$ $\sim$60% PCD

S. Marzari, T. Giles, T. Stora, E. Barbero, M. Owen
REX Upgrade

- REX Vacuum Controls
- Cables removed
- Cabling divided between TE-VSC and EN-EL as a function of priorities
  - EBIS
  - TRAP
  - SEPARATOR

1. Dismantling of the old system (FINISHED)
2. Electronics racks cleared (FINISHED)
3. Hardware installation (ONGOING)
4. Local validation of PLC and power supplies (TO BE DONE during February)
5. FESA validation (ONGOING)

**Applications**
- Timing editor application (ONGOING)
- Electrode graph display (FINISHED...to be tested when all the hardware will be in place)
- Time of Flight application (FINISHED)
- Scanning application (TO BE DONE during February)
- RF editor application (TO BE DONE during February)

E. Piselli, J. Sanchez, F. Wenander, S. Blanchard
RILIS

- Move the dye laser system to the new tables to make space for the new Ti:Sa lasers and move the pump laser chiller to the roof of the cabin.

- **Install the Ti:Sa laser system** (Nd:YAG pump laser and 2 or 3 Ti:Sa lasers, plus multiple harmonic generation units).

- **Redesign the HRS launch mirror system** to include a 4th path for ISCOOL pumping.

- **Install the laser path for ISCOOL pumping** in the HRS separator zone.
  - Optimize the little remaining space in the RILIS cabin
  - remove the electronics racks and desks and replace with a new compact workbench and shelving area.
  - Install a frame, laminar flowbox and safety shielding around the Ti:Sa section of the RILIS table.

- **LIST Tests on-going at off-line separator**
  - Ti ions have been extracted
  - Preparations for installation on FE#7 on-going

B. Marsh, S. Roth, D. Fink & V. Fedosseev
On-going Shutdown Work

- Pico-ampere meters for Faraday cups
  - Cabling and hardware installation on-going
  - Waiting for software installation
- Redundancy in tunnel fire detection implemented
  - Cause of “false” fire alarm in 2010
- Tesla meters for the HRS magnets to be moved externally.
- Complete renovation of ISOLDE timing
  - New distribution hardware this shutdown
  - Timing signal cards to be addressed next shutdown
- General maintenance
  - HT, vacuum, controls, robots, FE#6, beam instrumentation, power supplies, magnets…and a lot more.

E, Siesling, G. J. Focker, D. Raffourt, P. Fernier, T. Giles
• ALARA Level 3
  • Most interventions in the shielded areas of ISOLDE are classed as level 3 ALARA with respect to the present criteria.
  • The contamination criteria is the main reason for so many level 3 ALARA committees
    - 9/14 level 3 over last year.
  • 5 ALARA level 3 interventions addressed in the last 2 months
    • Protocol still unclear
    • 4/5 interventions have been “accepted” by derogation
    • High impact on resources and planning

• Visits
  • New rules for visits to controlled radiation areas…to be announced

• Traceability
  • Investigating possible use of Timber database (used by LHC) to monitor machine operation and RIB distribution.