

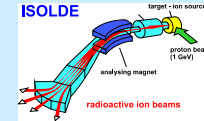
# Summary ATC days ISOLDE

Mats Lindroos  
On behalf of Steve Myers

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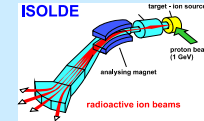
# Physics programme (Luis Fraile)



- ISOLDE is a world leading RIB facility
  - Delivers the bulk of RIB-ISOL beams in Europe
- Difficult start-up in 2006
  - Four experiments had to leave empty handed
- In spite of the difficult start-up 350 shifts delivered
  - Almost as many as in 2005 (ISOLDE alone)
- The REX and RILIS systems are in increased demand
  - Flagship systems at ISOLDE which attracts new Users and makes new physics possible



# Operation (Tim Giles)

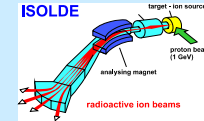


- **Problems during start-up**
  - Many but uncorrelated problems
  - The power cuts were outside the control of the section (department)
- **Shutdown/start-up coordination**
  - The cold checkup must not be compromised by testing and delays
  - We need close hands-on shutdown coordination
  - We need daily coordination meetings during start-up in addition to weekly status meetings
- **Targets must be handed over to operation early enough**
  - Person to follow target from workshop to experiment?
- **Machine supervisors need better and more target training**
  - Closer interaction between ISOLDE and PSB operators
  - ISOLDE specific training for all PSB operators
- **As the complexity of the facility increases the machine supervisors have an increasingly heavy workload**
  - REX and RILIS operation will add to the workload (beyond possible)
  - Priorities for 2<sup>nd</sup> job of supervisors not clear
- **The specification procedure for application programs is heavy**
  - Short-cuts possible if done within section?
  - More use of commercial software?
  - However, we must stick to AB standards to simplify support (Comment: Steve)
- **The inflector zone could ease operation**
  - In particular coordination with PS running and interventions
  - The zone must re-structured from safety viewpoint

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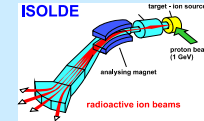
# Targets (Thierry Stora)



- The limited resources in the section demands a limit on the number of UCx targets per year
- The support for the experimental area need a dedicated technician
- The targets should be followed from workshop, through target test and to the experiment
  - Valuable support from EURISOL staff and MC fellows for target tests
- Consolidation required:
  - The tape station is crucial for ISOLDE and in desperate need of consolidation
  - The front-ends must be replaced regularly, done on operation budget as there is no consolidation money available
- Radiation protection:
  - Disposal of targets and work in the class A lab require a RP technician continuously
  - Many tasks during the shutdown requires that a Radiation Protection technician is present



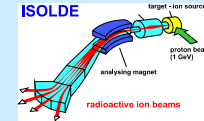
# REX (Fredrik Wenander)



- REX-ISOLDE is the flagship programme of ISOLDE
  - The machine delivers a high number of shifts reliably
    - 18 out of 20 runs successful in 2005 and 2006
- The low energy part ticks like a clock
  - EBIS cathode change requires complete bake-out
- Linac RF power supplies not yet reaching specifications
  - Work in progress this shutdown
- The pressure on the small specialist team has been extremely high
  - Set-up during weekend. On-call: 10 weekends/specialist
  - Technical support largely done by two machine specialists
  - OP technician joined team in 2006 and is just completing the training to become part of piquet team
  - The support groups still have very limited knowledge of REX
  - No dedicated superintendent
  - We should not split the machine in a low energy and linac part.
- The migration of the control system to AB standards has taken a lot of resources for no improvement
  - Re-specify existing Visual Basic programs



# Organization (Jacques Lettry)

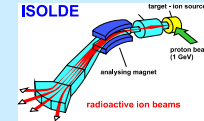


- The ISOLDE operation is too segmented
  - Need to follow the beam from target to experiment
- The link between the Users and the machine supervisors must be re-established
- There are many external contributors but the contributions are highly fractioned
  - External contributions goes to visible projects leaving support groups to support an ever increasing number of activities
- We can only hope to re-distribute manpower
  - Better coordinate the work to save resources
  - Make use of 2<sup>nd</sup> job for operators for ISOLDE maintenance work
- Could we reduce the workload by reducing the number of shifts and do consolidation instead?
  - The operational hours are fixed by RB. A reduction must correctly communicated to the Users
- The RILIS project is also a flagship activity at ISOLDE with an ever increasing demand
  - The external contributions (such as RILIS/LARIS) grant represents a major consolidation of old systems
- New projects
  - Mini-move is externally financed but leaves REX with a more complex system
  - The RFQ cooler can become a new flagship project of ISOLDE but the external contributions are highly fragmented.

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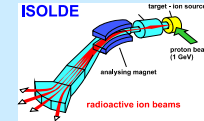
# Conclusions 1 (Steve Myers)



- In spite of a difficult start-up the number of shifts of physics were maintained
- Flexibility in schedule:
  - Can the physics coordinator leave more room for recovery after problems?
  - Investigate if the inflector zone can be made operational again (ACTION)
- Safety:
  - Audit of safety at ISOLDE e.g. need of INB. (ACTION)
- Consolidation:
  - The tape station should be replaced ASAP (ACTION)
  - Can we modify the risk analyses so that some limited resources also becomes available for end-users (low impact factor items) (ACTION)



# Conclusions 2 (Steve Myers)



- **Manpower:**
  - The manpower available for radiation protection and vacuum for ISOLDE is critical
- **Software:**
  - ISOLDE should maintain AB standards to ease support. The specification process is demanding but necessary.
- **Organization:**
  - The function of **daily technical coordination** and **technical spokesperson** should be separated (ACTION)
  - The ATB and OP group will discuss a possible **merge/re-organization** of the ISOLDE activities to optimize the use of resources (ACTION)
  - REX support must be assured on the same level as for the rest of the facility (ACTION)
  - The use of the RILIS should be limited to the agreed 1500 hours to free the staff to install the new solid state laser system which represent a major consolidation of the RILIS (ACTION)